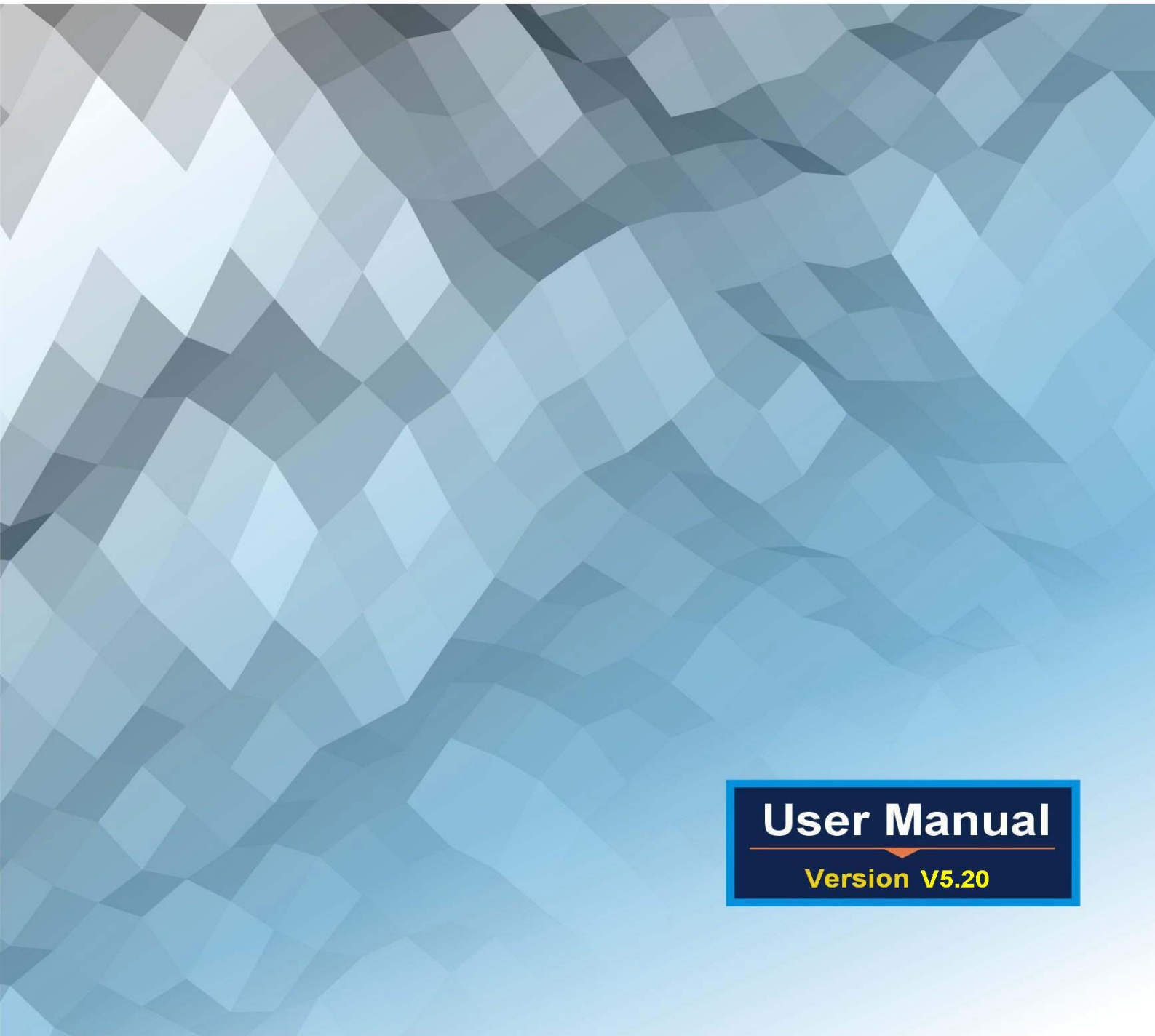
Digital ID VIEW

Linux-Embedded DVR



User Manual

Version V5.20

1st Edition (Sept 08, 2008)

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1.Introduction

1-1 Product Characteristics

- **Optimum Replacement for Time-lapse Recorder**

Traditional Time-lapse Recorder is a mechanical device. It is very easy to break down after long-term operation and it causes many problems such as: the overly used magnetic heads which cause blurred image; tapes need to be changed often and manually; the recording time is not long enough; the management of recorded tapes is complicated; inefficient when trying to locate the needed data; recording a huge amount of useless images, etc.

This DVR system adopts digital recording technology. The quality of images will not deteriorate with time. With its high compression rate, the storage time can last for months under normal applications. The overwrite operation mode will overwrite the earliest data, and no more tape change is required. Motion detection function will enable the recording only when there is motion of the objective, and makes the system and data retrieval more efficient.

- **High Reliability**

Normal PC digital surveillance system adopts the MS-Windows OS (Operating Systems). Such kind of system is so often to crash. It usually makes a negative impression which digital surveillance system is unreliable.

This DVR system adopts Embedded-Linux OS. Our advanced embedded technology condenses the entire system into a tiny flash module, which makes the system more reliable. Even when the power fails, the system will re-boot and return to normal operation in less than one minute.

- **Longer Recording Days**

This DVR system adopts the advanced MPEG-4 compression to store the video images. It allows you to record more data on the same capacity of hard disks.

- **Ease of Operation**

Mouse clicking on the Graphical User Interface controls all the operations. No keyboard is needed so that it is most suitable for the security guards and normal non-IT based users to use.

- **Multi-Function**

Function of one set of ***DVR system*** = Time-lapse Video Cassette Recorder + Multiplexer processor + Motion Detection Processor

You can backup the data to CD-R/RW, remotely monitor the images and still recording the current video data at the same time.

■ **IP Surveillance**

Instead of only analog camera, from V5.03, this DVR system also supports IP camera connections to build a IP surveillance system to enjoy higher scalability, lower deployment cost, and greater intelligence of IP surveillance compared to CCTV.

1-2 Main Features

Items		Description
System	OS	Embedded Linux
	Video Inputs -Analog Camera	4/8/12/16 channels in BNC jack for SV, SV1000, HV3000
		8/16 channels for SV+, HV5000
		16 channels for SV2000
	Video Inputs -IP Camera (Optional)	4/8 Channel IP camera for SV1000, HV3000, HV5000
	Video Outputs	D type 15 Pins VGA and TV-Out
	Video Format	NTSC/PAL
	Audio Input/Output	1 channel input and 1 channel Output for SV, SV+, SV1000
		4 channel inputs and 1 channel output for SV2000
		Audio on each channel for HV3000, HV5000
	PC Interface	PCI Slot
	Multi-Tasking	Yes
Display	User Interface	800*600, very user friendly
	Frame rate	Real time display
	Resolution	640*480
	Display Splits	4/6/8/9/13/16
	Sequencer	1/4
	HDD Usage Display	Yes
	Hidden Camera	Yes
	Video Loss Detection	Yes
	Display Password Protection	Yes
	Image Parameter Adjustment	Brightness/Contrast/Hue/Saturation for each camera
Recording	Compression	MPEG 4 like Compression
	Resolution	640*480,640*240,320*240
	Frame rate	SV: 30/60/90/120fps(NTSC); 25/50/75/100fps @320*240(PAL)
		SV+: 120/240fps(NTSC); 100/200fps @320*240(PAL)
		SV1000: 120/240/240/240fps(NTSC); 100/200/200/200 fps@320*240(PAL)
		SV2000: 400fps@352*240(NTSC); PAL: 400fps@ 352*288(PAL)

		HV5000: 120/240fps@D1, 240/480fps@QVGA(NTSC); 100/200fps@D1, 200/400fps@QVGA(PAL)
		HV3000: 120/240/360/480fps@D1(NTSC); 100/200/300/400fps@D1(PAL)
	Pre-Schedule Recording	By 7days x 24hours, set each hour as: recording by motion, continuously recording, non-recording
	Motion detection area	Define any 8x8 cell for motion detection. Free combinations of detected areas. No limitation on the number of detection areas.
	Motion detection sensitivity	10 ranges per camera
	Smart Motion Recording	Automatically adjust recording frame rate according to motion occurring to save HDD space. (Low frame rate recording w/o motion occurring and high frame rate recording with motion occurring)
	Pre-Recording	0~10 sec
	Post-Recording	0~20 sec
	Watermark	Yes
	Date Code	Recording includes time/date information. To prevent date code from being modified
Playback	Playback channels	Max 16 channel Sync playback
	Playback mode	Play, Pause, frame by frame play, fast forward, fast backward
	Video Enhancement	De-interlace, Sharpen
	Search	Search by time, date and event.
	Image Adjustment	Brightness/Contrast
Remote Functions	Networking	Internet/PSTN/LAN by Ethernet/ Modem
		Static IP, PPPoE, DDNS, DHCP
	3G/GPRS/Wi-Fi	Remote monitoring
	IE Browser	Remote monitoring via JPEG or MPEG 4 streaming.
		Max. 16 clients access simultaneously
		Max. 16 ch sync playback
		Remote playback
		Remote backup
	Central Management System	Max. 64 DVR connections with 1024 Ch
		Remote monitoring
		Remote playback
		Remote backup (One time backup or periodical backup)
		E-MAP

	Remote Backup	by Windows Network Neighborhood
Alarm	Inputs	SV, SV+, SV1000, HV5000, HV3000: 4/8/12/16 NC/NO inputs
		SV2000: 4/8 NC/NO inputs
	Outputs	SV, SV+, SV1000, HV5000, HV3000: 4/8/12/16 NC/NO outputs
		SV2000: 4/8 NC/NO relay outputs
	IO & Camera Relations	1-1, 1-many, many-1, many-many
	Alarm Behavior	Alarm to Zoom, Alarm to recording, Alarm to Notice (by Email / FTP / SMS), Alarm to DO output
	Tamper Protection	Camera covering/spray detection
Storage & Backup	HDD Interface	Support IDE & SATA HDDs with Max 8TB
	RAID support	*Support IDE/SCSI RAID *Support RAID 0~5, RAID event notification & RAID configuration
	Backup	USB/ IDE burning device (CD-R/RW, DVD±R/RW); USB storage (Pen Drive, HDD)
	HDD SMART Diagnostics	Yes
Other	Password protection	128 user accounts
		Multiple levels user authority (Admin/Supervisor/User)
		Password expiry management
	PTZ camera support	Yes
	Power Down Management	Yes. Auto-recovery when power back
	Watchdog	Yes Hardware Watchdog.
	Time Zone/Daylight Saving	Yes
	AVI Format Export	Yes
	Time Sync	Support Time Server, FM and RTC Time Sync
	POS	Support POS integration.
	UI Language	8 languages in single software: English, French, German, Japanese, Portuguese, Spanish, Traditional Chinese, Simplified Chinese.

* Specifications subject to change without notice

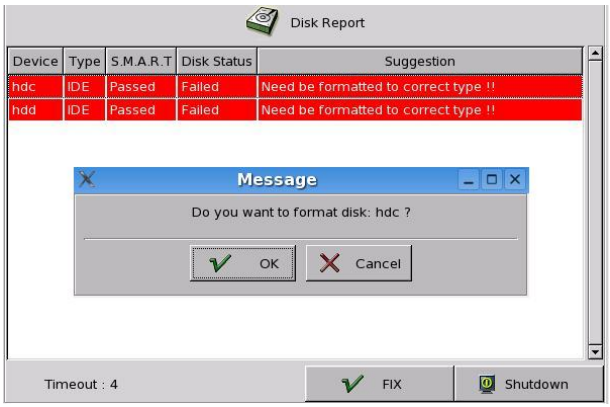
2.The First Time Start

You can select your preferred display language at “Main Menu” before starting DVR system. This DVR system supports seven kinds of languages that including Traditional Chinese, English, Japanese, French, German, Portuguese, and Spanish.

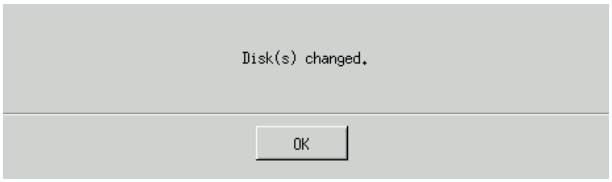
Besides Language selection, please also set up “ Camera Signal” type as “NTSC” or PAL” according to the camera you use. Please be noted that incorrect camera signal will cause abnormal image format.

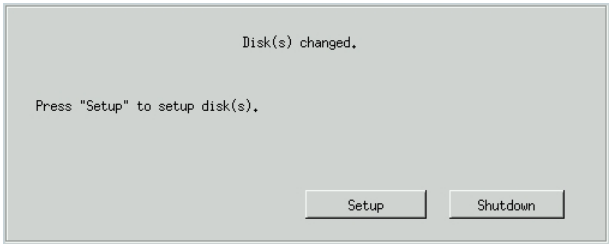
	Function	Description
1	Start DVR	Quick access to DVR main screen. If you don’t click this button, DVR will automatically go into Main screen after 5 seconds
2	Play Recorded Video	Playback only. Quick access to playback mode.
3	Disk Tool	Tools for HDD storage device including Scan Disk, S.M.A.R.T Diagnostic, Disk manager to assign camera to HDD and RAID configuration.
4	System Tool	Reset Configuration
5	Select Language	Select preferred language (Traditional Chinese, English, Japanese, French, German, Portuguese, and Spanish)
6	Camera Signal	Switch DVR to NTSC or PAL mode according to camera signal type
7	Power Off	To turn off the DVR

Wait 5 seconds for time out and then the system will detect new hard disks and ask if you want to format hard disk.

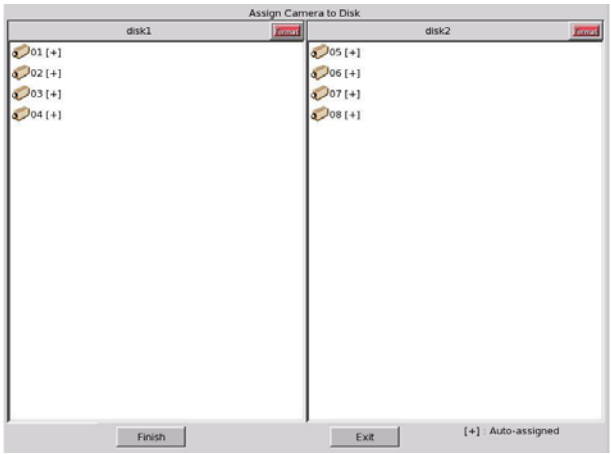


Click “OK” to start formatting. Follow the on-screen instruction to continue.



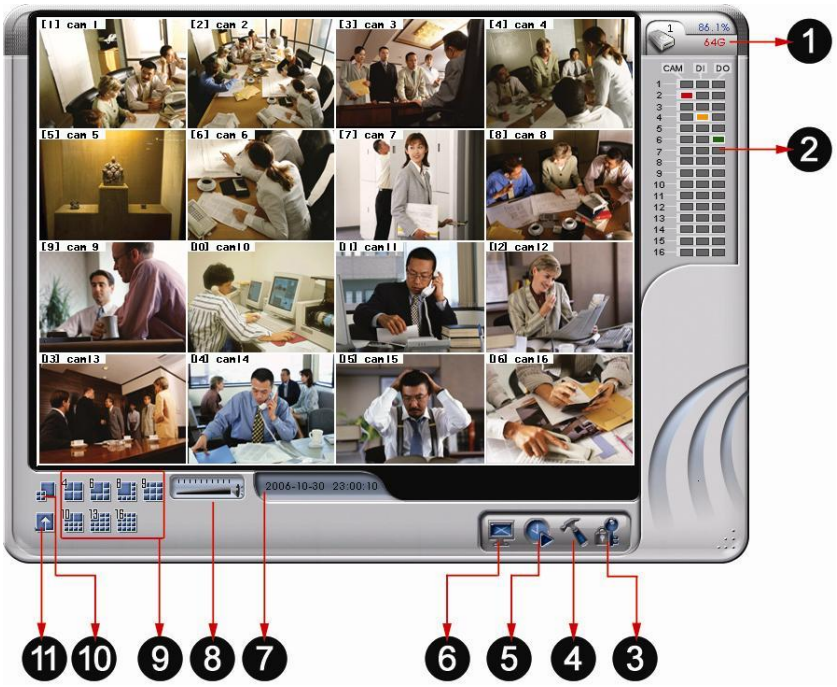


Click “Setup” to see the figure below.



Click “Finish” to complete the setting and the system will restart automatically.

3.Main Screen



The controls in the main screen including:

	Function	Description
1	Storage Space	Indicate the HDD free space status
2	Recording/ DI/DO Status	Camera recording and alarm/sensor input and output status
3	Monitor Authority	Login to see the live display.
4	System Setting	Switch to system configuration mode to change system setting
5	Playback	Switch to playback mode to playback video files
6	Full Screen Monitoring	Monitor in full Screen
7	Date/Time	Display current date and time
8	Audio Volume	Adjust live monitoring audio volume
9	Display Mode	Select display division
10	Motion to Zoom	Activate zooming function when motion occurs
11	Sequencer	Display in sequence

3-1 Display Mode

If "**Monitor Password Protection**" function is enabled (Please refer to Chapter 5-4 User Account Management and Chapter 5-7 System Setting), the system will request you to enter User name and Password before seeing the live monitor. Click the monitor icon on the main screen to login to the DVR live monitor.

This DVR system provides different kinds of display mode depending on the DVR model you install. 16- channel DVR provides 4/6/8/9/10/13/16 split modes. 8- channel DVR provides 4/6/8/9 split modes and 4-channel DVR provides 4-split mode. You can also click in a camera image on any split screen to show the full screen of that specific camera. The cameras displayed on each split mode can be configured in the system setting menu.

Beside these split modes, we have 4 channel and 1 channel sequencer modes. Just click the icon to select the sequencer mode you want. You can set up the "Sequencer Order" and the "Sequencer Duration" in the "System Setting" menu. Please refer to the Chapter 5-2.

In the full screen mode, the "Screen Adjustment Parameters" will locate at the bottom of the screen. These parameters include "contrast", "brightness", "chroma", and "saturation". You can disable this function in the system submenu under "System Setting"

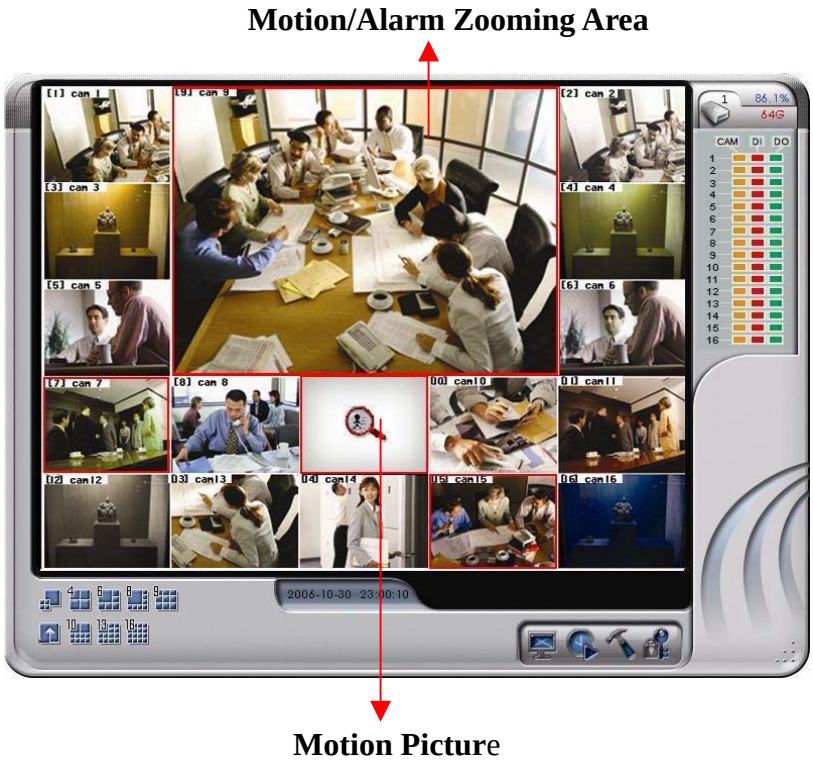
When a Speed Dome is connected and the system is in **full screen** mode, PTZ control buttons will pop up in the lower right of the screen. These controls include "Zoom in", "Zoom out", "Auto Focus", "Focus Near", "Focus Far", and "PTZ Speed", "Auto Pan" and " Preset Points".

!	**Note** • Although DVR supports max 30 characters for camera name, SV2000 DVR can only display 15 characters of camera name in "one channel" split mode.

Zoom In
Zoom Out
Auto Focus
Focus Far
Focus Near
PTZ Speed
Preset Point
Contrast
Brightness
Chrom
Saturation
Auto Pan

3-2 Motion/Alarm to Zoom

The function of “ Motion/Alarm to Zoom” is zooming in the screen when there is any motion or alarm occurring. After clicking icon, it will activate the “Motion/Alarm to Zoom“ mode.



1. To set up “ Motion to Zoom”, you must go to the “ **Alarm Notice**” sub-menu under **“System Setting”** to set up the channels that you want to enable this function. To set up “**Alarm to Zoom**” function, you need to go to “DI/DO” sub-menu under “System Setting” to set up the zooming channels that will be triggered by DI. Click “ DI/DO” sub-menu in “ System setting and then select “**DI->Zoom**”. Next, click channels in which you want to enable “Alarm to Zoom” function and then return to the “**Main Menu**” to click the “ Motion/Alarm to Zoom” icon.

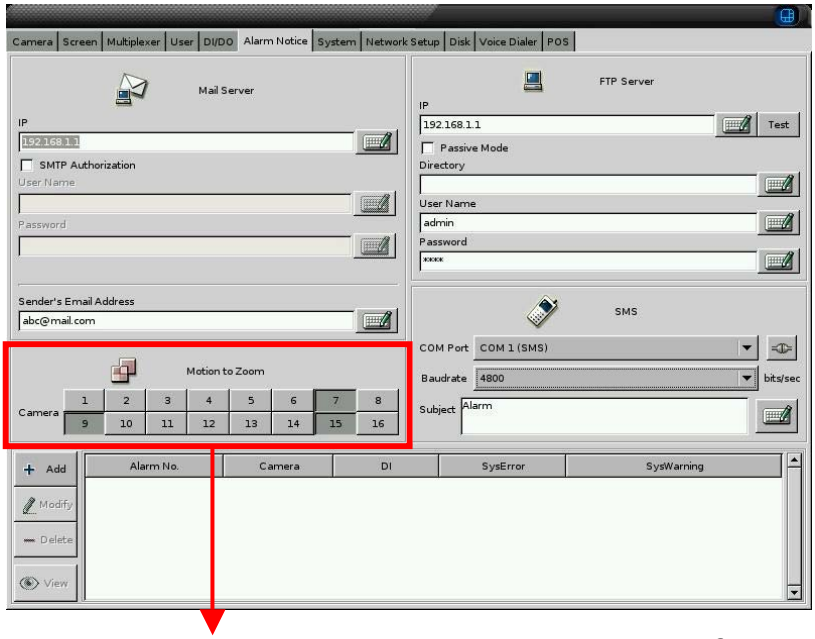
2. When the channel enabled by “ Motion/Alarm to Zoom” function is with motion occurring or alarm triggering, this channel will be zoomed in the “ Motion/Alarm Zooming” area and a “Motion/Alarm Picture” will replace the original screen of this channel. If the channel is not

enabled the " Motion/Alarm to Zoom" function, it will not be zoomed and will not be marked in red frame even there is a motion or alarm triggering in this channel.

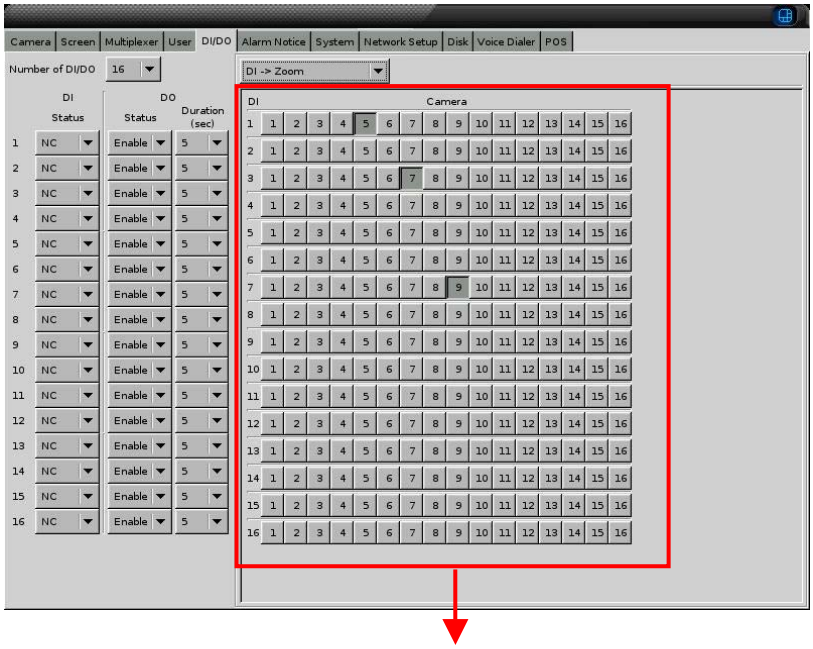
3. If there is no other motion or alarm triggering, the current zoomed channel will be continually kept in " Motion/Alarm Zooming Area". If yes, the zoomed channel will stay in " Motion/Alarm Zooming Area" just for three seconds and will be replaced by the one from any channel waiting for zoomed. If there is more than one motion or alarm triggering at the same time, the zooming rule will be as following,

a. The previous zooming channel will be the first priority for zooming again and others will be marked in red frame to wait for zooming in after three seconds. However, the number of continually zooming the same channel will be limited to three times. After three times, even this channel is with motion or alarm triggering again, the motion/alarm zooming area will show the screen of other channel. If the motion or alarm in one of the channels waiting for zooming and marked in red frame disappears within three seconds waiting time, this channel will not be zoomed in and the red frame will disappear.

b. If the previous zoomed channel does not have motion or alarm again, the first priority being zoomed is the channel of which number is the smallest. For example, if channel #3 and channel #7 are with motions or alarms triggering at the same time, channel #3 will be zoomed in firstly for three seconds and the screen of channel #7 will be marked in red frame to wait for zoomed in after three seconds.

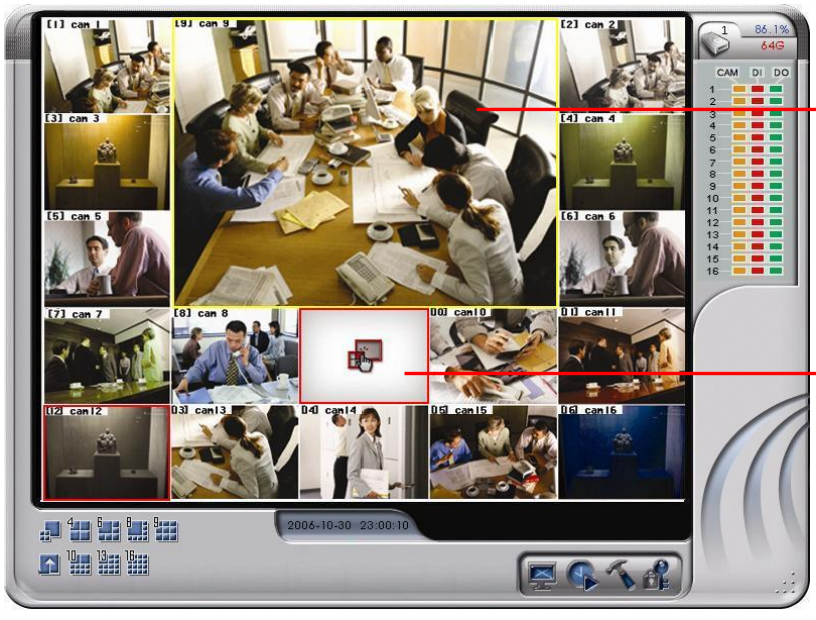


Select the channels you want to enable " Motion to Zoom" function



Select the channels you want to enable "Alarm to Zoom" function

4. Zooming in a specific channel: You can decide just to zoom in a specific channel. When clicking any channel you want to zoom in, this channel will be zoomed in to the "Motion/Alarm Zooming" area marked in **yellow** color frame and the original screen of this channel will be replaced by a **"locked picture"**. Then, the screen of other channels, even occurring motion or alarm triggering, will not be zoomed in "Motion/Alarm Zooming Area" and it will be just marked in red color frame. You can click the " Motion/Alarm Zooming Area" to cancel the " Zooming in a specific channel".



Motion/Alarm Zooming Area marked in yellow color

Locked Picture

3-3 Storage Space

On the right side of the main screen, you can find the free space of hard disk. If there are more than one hard disk is connected, it will display the status of each HD every 5 seconds.

When you start using a new hard disk (for example, a hard disk with capacity 80GB), the percentage of free space will be very close to 100% (e.g. 99%), and the color will be **BLUE**.

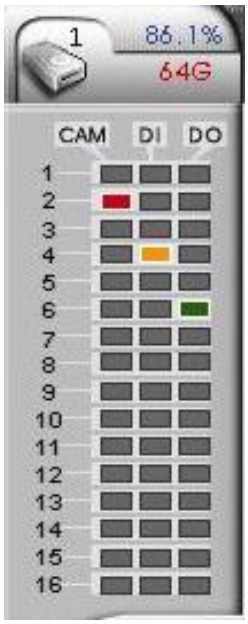
However, as recording continues, the available space will diminish. When the remaining available space is less than **4GB**, the display color will change to **ORANGE**. This serves as a warning message that the system will soon enter the **Recycle Mode**; which means, the earliest recorded data will be replaced by the newest recording data. If you would like to keep all the data, this is the time to swap a new hard disk.

If the disk has not been changed and the recording continues, the system will go into **Recycle Mode** when the hard disk free space is less than 1GB. The color of "Hard Disk Free Space" will turn **RED**.

!	**Note** ● This DVR system supports maximum six HDDs without RAID function. ● This DVR system supports maximum six HDDs volumes with RAID function.

3-4 Recording & DI/DO Status

The first column indicates the recording status of each camera:



Color	Recording Mode	Status
Orange (▬)	Full recording	
Green (▬)	Motion-sensor	Motion not detected
Red (▬)	Motion-sensor	Motion detected & recording
Gray (▬)	No recording	

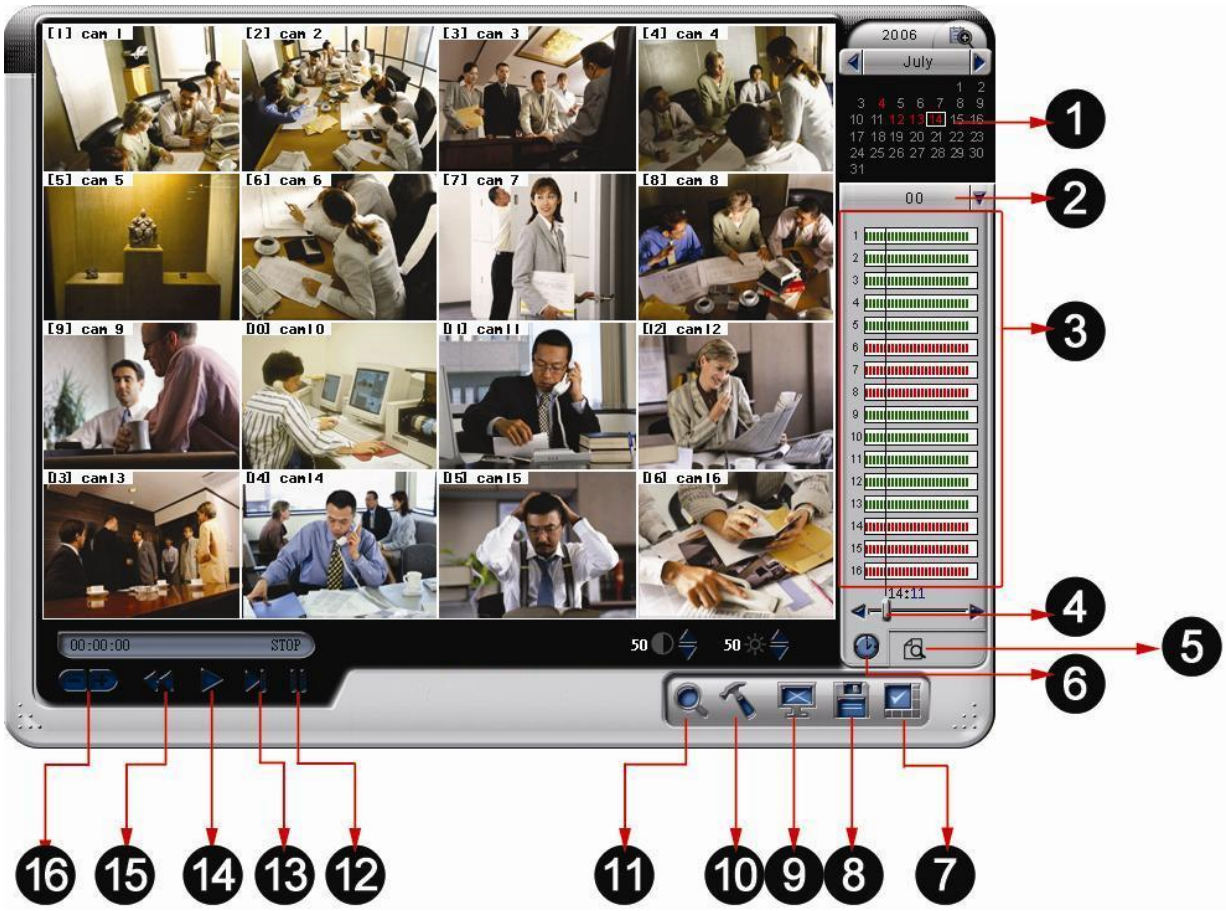
The second and third column shows the status of each DI and DO device.

Color	Status
Green (▬)	Device not activated
Red (▬)	Device activated

4.Playback

Click the playback icon on the main screen to enter playback mode. If “Playback Password Protection” function is enabled (See 4-1 Playback Password Setting), the system will request you to enter User name and Password to pass the authentication,

The controls of Playback function are as below,

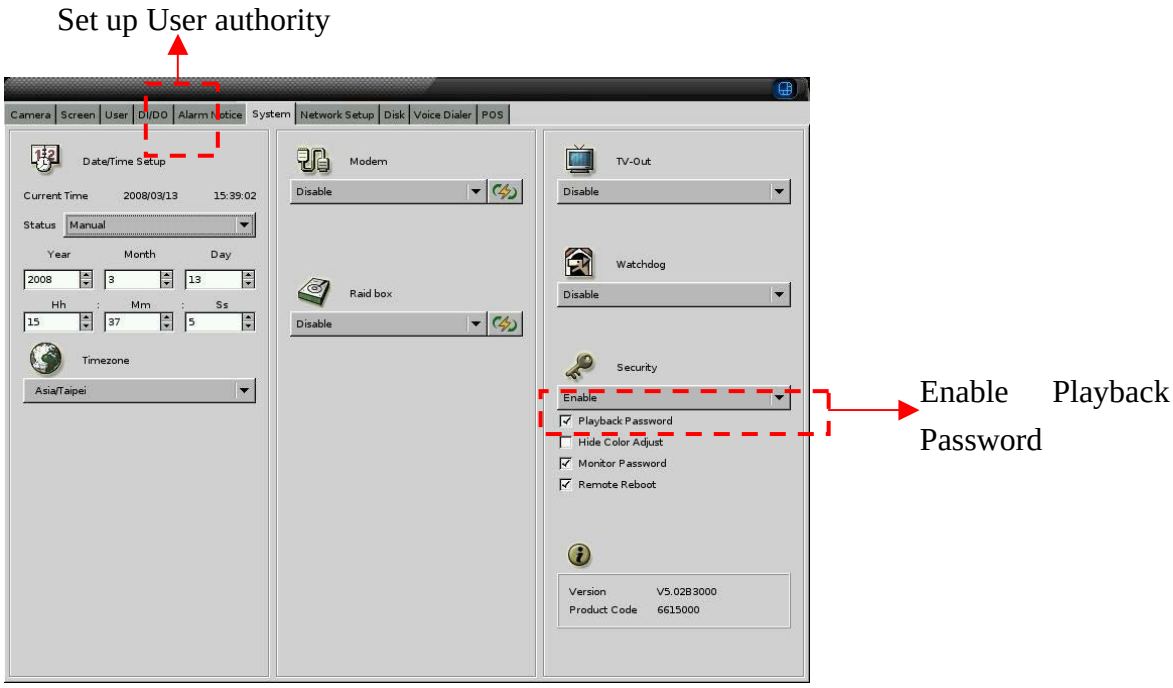


Item	Function	Description
1	Calendar	Select the calendar of playback.
2	Hour menu	Select the hour of playback.
3	Time Map	List the time slots with recorded video
4	Minute Bar	Select the minute of playback.
5	Search Result	List all of the logs of search result.
6	Time Search	Search the playback video by “Time” condition
7	Exit	Back to Main Screen.
8	Snapshot/Bac	Catch the image or backup the video to the storage device
9	Full Screen	Monitor in full Screen
10	Setup	Set up the playback configuration including video and audio.
11	Event Search	Search data by “Event” condition including System, and Device
12	Pause	Stop the playback.
13	Next frame	Jump to the next frame.
14	Play	Play recorded video.
15	Rewind	Rewind recorded video.
16	Speed	Adjust playback speed

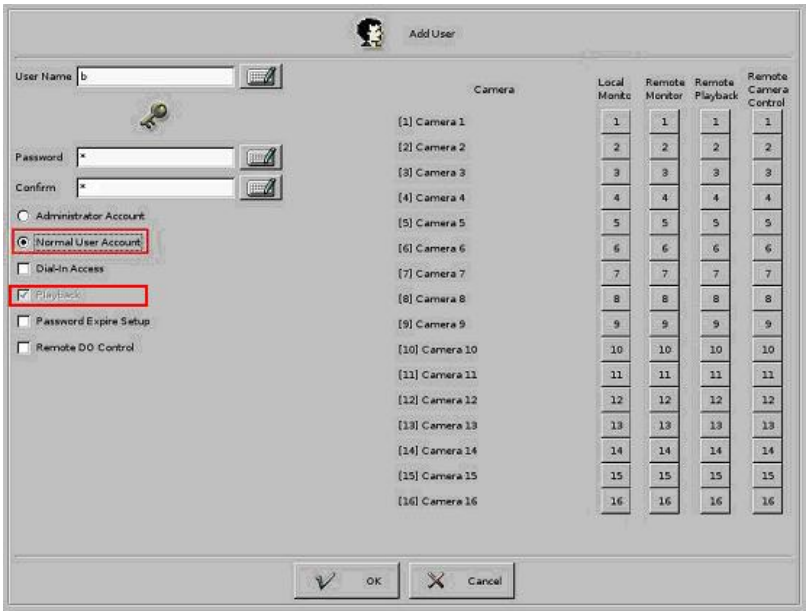
!	**Note** If “Playback Password Protection” function is enabled, you need to enter administrator user name and password for authentication.

4-1 Playback Password Setting

If you want to activate “Playback Password Protection” function, click in the main menu to go the “System Setting” as the figure below. Change the “**Security**” from “ **Disable**” to “**Enable**” mode and then click “**Playback Password**”.



Then, set up the “**User**” authority of playback as follows,



!	**Note** • The default setting of playback action has been authorized to Administrator. • To further identify the level of " Supervisor", please enable the playback function when setting the " Normal User Account". Please refer to the **Chapter 5-4.**

4-2 Search for Recorded Data

This DVR system provides two modes of “ Search for Recorded Data”. One is “ Search by time” and the other one is “Search by Event”.

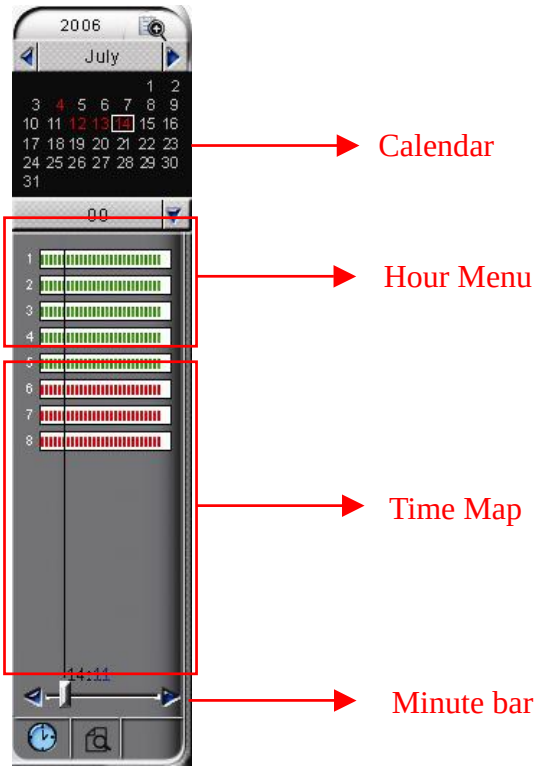
4-2-1 Search by Time

Time Map

When you click the icon of “ Time Search” on the lower right corner of Playback screen, it will show three kinds of time parameters for users to select and jump to the recorded data by time directly including “ Calendar, Hour and Minute”.

■ **Select Calendar**

Click on the date of the calendar on the upper right corner of the screen. If there are recording data, the date will show red color for selection.

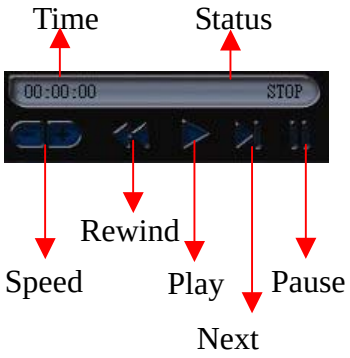


■ **Select Hour**

Click “Hour Menu” and it will show the pull-down menu providing 0~23 hours for selection. If there are recording data in the hour, it will show red color for selection, otherwise it will show black color. If it is daylight saving time with extra one hour, the color in that hour will show yellow color. After you select any hour with recording data, you can see the scattered data bar in each channel in that hour. Each bar represents two minutes recording data. Red bar means only video recording data and green bar means recording data with video and audio at the same time.

■ **Select Minute**

By pulling the Minute bar below the Time Map to select the actual time slot which you want to play the recording data. Click “ Play” button to start playback.



You can adjust the speed of “Play” or “Rewind” by clicking “ **Speed**” button. The “+” button is speeding up the Play or Rewind speed and the range is from 1X, 1.5X, 2X, 3X, 4X, 6X to 8X. The “-“ button is slowing down the Play or Rewind speed and the range is from 1/8, 1/7, 1/6, 1/5, 1/4, 1/3, 1/2, to 2/3. Next Frame button allows you to play picture by picture.

■ **Playback channel**

From DVR V4.20, it can support max 16 channels playback simultaneously. However, the DRAM capacity will decide how many playback channels that are provided by DVR to ensure reliable DVR system. DVR will automatically detect system DRAM capacity. If DVR installs 1G DRAM, it will provide max 16 channels playback function. If DVR just installs 512MB DRAM or less, only four channels or eight channel playback function will be provided. Please refer to the following table for the playback channels that are provided by DVR system according to the DRAM and DVR channels.

RAM size / DVR channel	256MB	512MB	1GB
4	Max 4 ch playback	Max 4 ch playback	Max 4 ch playback
8		Max 8 ch playback	Max 8 ch playback
16		Max. 4 ch playback	Max. 16 ch playback

✓ **Switch the size of Playback channel**

If DVR system provides 16-channel playback, the default playback channel will be 16 splits. This 16 channel splits are divided into four groups as below pictures. You can click certain channel to enlarge the channel size by three stages from sixteen- split size, four- split size to full screen size. For example, single click channel #1, it will show the four split size and show full screen size by clicking it again. If you want to reverse it to sixteen- spilt size, just only click on the full screen again. .

□ **Playback in sixteen-split size**

Single Click Channel# 1

□ **Playback in four split size**

□ **Playback in full screen size**

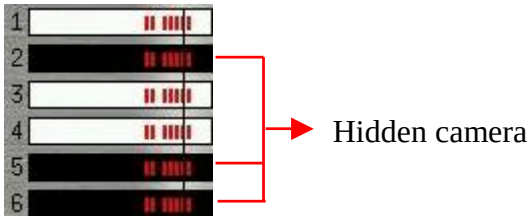
Single Click Channel# 1

Single Click Channel# 1

□ **Reverse to sixteen split size**

When you enlarge one playback channel, some channels will be hidden. For example, when

you enlarge 1st ch from 16-ch split size to 4 ch split size, the other three channels in that group including 2nd, 5rd and 6th channels will be hidden. As a result, the data bar background of these hidden channels in Timemap will be in black color as below picture and others will keep as white color.



✓ **Switch the playback channel location**

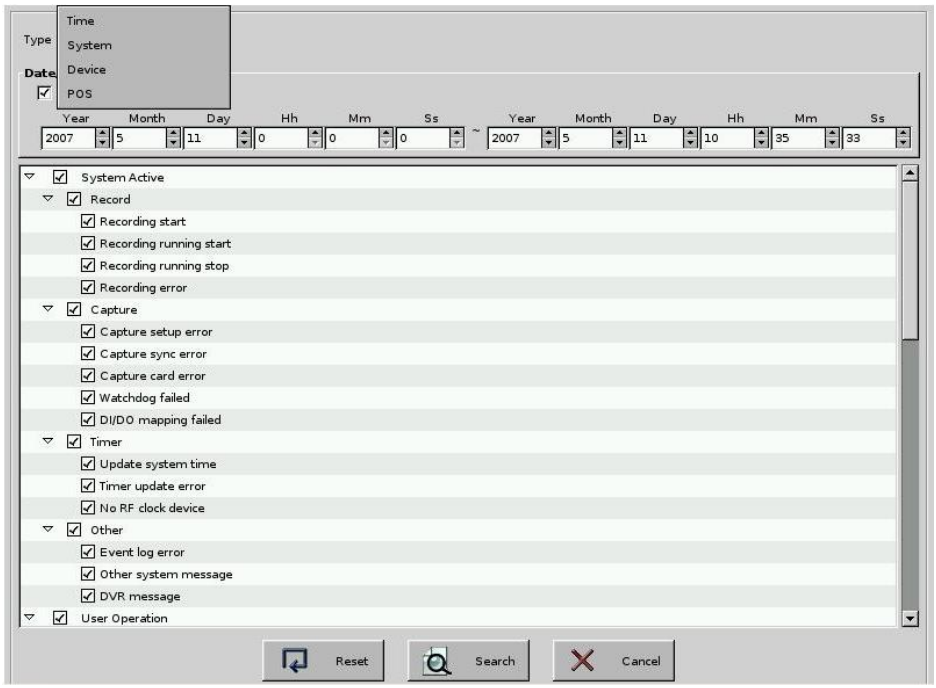
By Dragging and **Dropping** the data bar of any channel in Timemap, you can switch the playback channel location.

4-2-2 Search by Event

Event Search

By clicking the " Event Search" icon , it will show the "**Search Window**". There are four kinds of event search modes, " **Time, System, Device and POS**".

Search Mode	Description
Time	Search all of the events within the time range you set up.
System	*Search all of the **System** events within time range which you set up by ticking the " Time Search" at the same time or *Search all of the **System** events without time boundary by disabling the " Time Search".
Device	* Search all of the **Device** events within time range which you set up by marking the " Time Search" at the same time or *Search all of the **Device** events without time boundary by disabling the " Time Search".
POS	* Search all of the **POS** events within time range which you set up by ticking the " Time Search" and POS transaction conditions at the same time or *Search all of the **Device** events without time boundary by disabling the " Time Search".



- **Time Mode:**

Step 1: Select " **Time**" mode in the Search type.

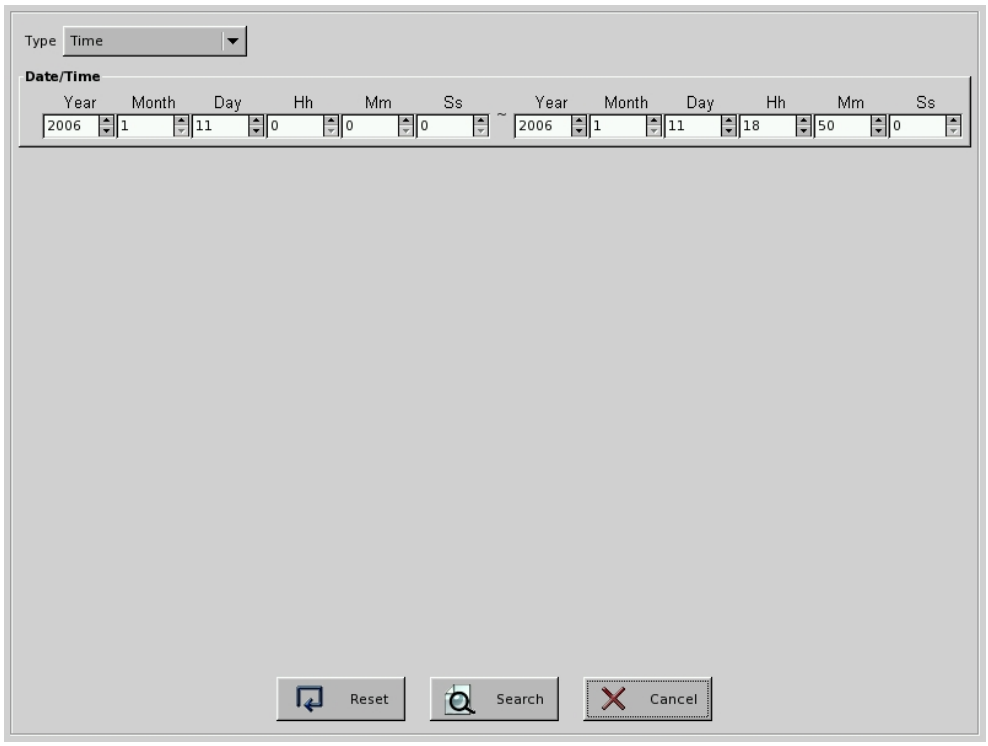
S**tep 2:** Set up the time range of **starting point** and **end point** including Year, Month, Day, Hour, Minute and Second.

S**tep 3:** Click " **Search**" button

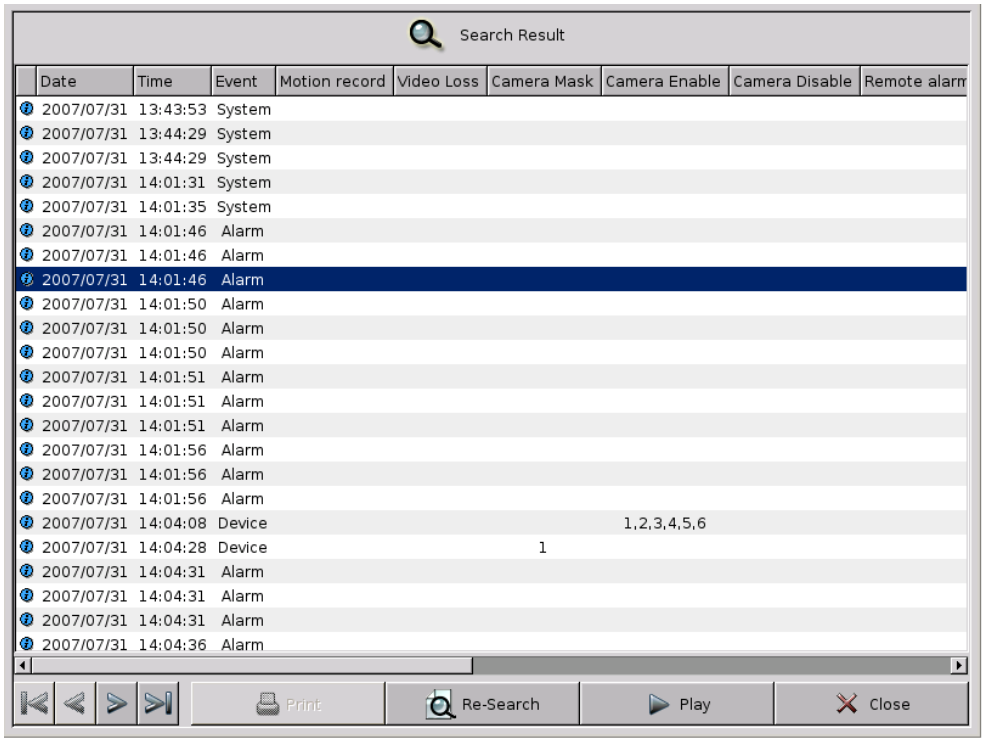
to start the " Event Search". Click " **Reset** " button

to go back to Default time range. Click "**Cancel**" button

to stop the event search.



Step 4: Then, the system will open the **Search Result Window** and show the **"Search Result".**



In the Search Result Window of **Time Mod**e, there will be 11 information columns for each

event log including "**Date, Time, Event, Type, Motion Record, Remote Alarm Record, Camera Video Loss, Camera Enable, Camera Disable, DI Trigger, DO Trigger and Content"**. The columns of **Date and Time** list the event time information. **Event** column list " System", "Camera" or "Device" event. **Type** includes "Information ( )", "Warning ( )", or "Error( )". **Camera Motion, Camera Video Loss, Camera Enable or Camera Disable** represents the camera with event. The **Content** column makes the description of System event.

It will show 24 event logs in one page each time and you can click one of the " Jump button to go to the event page you want to see.

: Jump to the first page of event search result.

: Jump to the preview page of event search result.

: Jump to the next page of event search result.

: Jump to the last page of event search result.

You can click "Print button" to print the logs of search results.

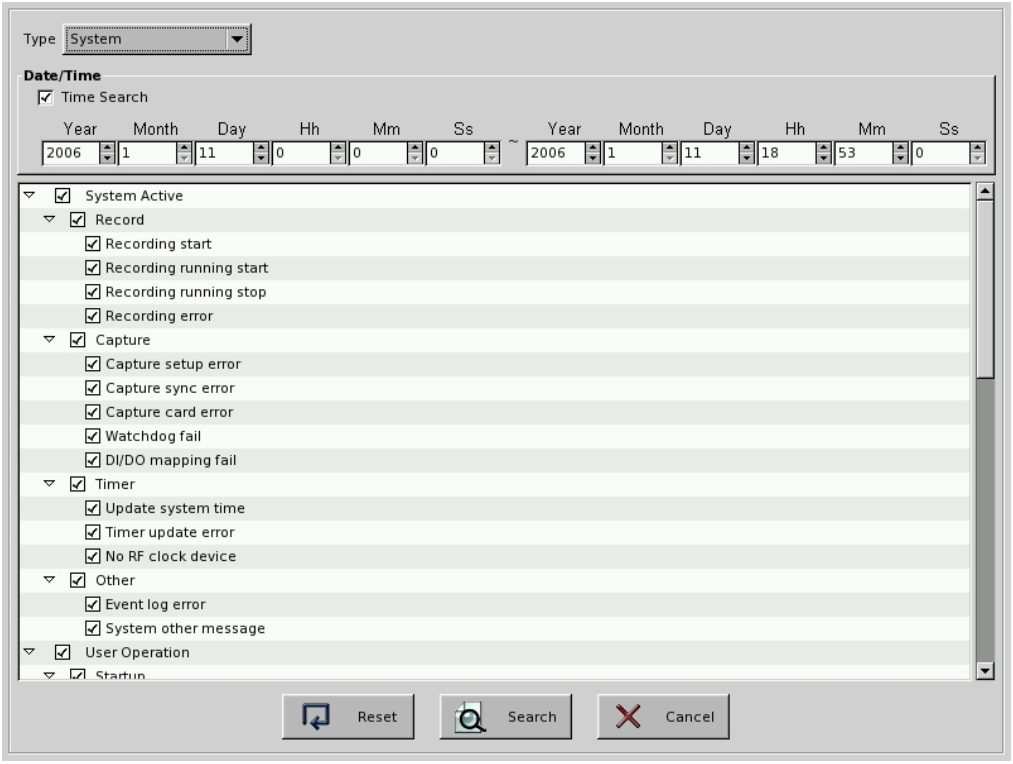
Step 5: Click button. The system will jump to "**Playback Window**" as the following picture. The search result will be shown on the right side of "**Playback Window**". Or click " Re-search" button and the system will go back to **Search Window**.

- **Step 6:** Select one of the search logs. It will pop up a window on the left side of **Search result** to show the detail information of this log including **Event**, **Type** and detail **Content**. Click “GoTo” button and it will start to play the event video.

!	**Note** It will list 10 event logs in one page each time and you can click one of the " Jump Button" to go to the event page you want to see.

- **System Mode:**

You can search the event by "**System"** mode and you can also add the "**Time Search**" condition to narrow the search range. By marking the various **System conditions,** you can decide the search range.



The following table lists all of the "**System Events**".

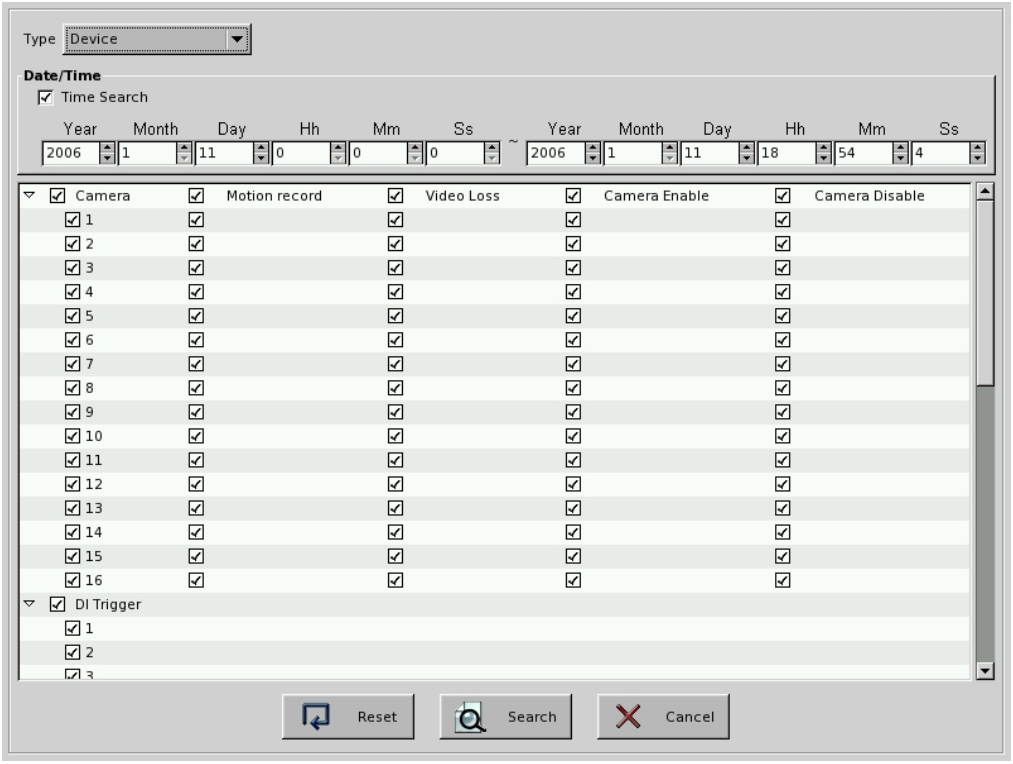
Event Group	Rule
Record	Recording Start
	Recording Stop
	Recording running
	Recording exception
Capture	Capture setup error
	Capture sync error

	Capture card error
	Watchdog Fail
	DIO mapping Fail
Timer	Update time to RF clock
	Update time to RTC clock
	Timer update error
	No RF clock device
Other	Event log error
Startup	Enter play recorded video Mode
	Enter disk tool menu
Monitor	Enter setup mode
	Enter playback mode
	DVR online
	Current Timezone
	Detect camera count error
	System Shutdown: Disk error detected
Setup	System Setup change
	Max user count limit is 128
Playback	Enter monitor
	Enter backup
Storage	No disk found
	Disk error
	Recycle disk
Alarm	FTP alarm
	E-mail alarm
	SMS alarm
	Voice Dialer
Remote	Setup change by remote user
	Remote Setup Fail
	Remote Setup get Fail

Refer to the **Step 1 to Step 6 of Time Mode Search to play the event video**. The main different between System Search mode and Time Search mode is **the Step 4** "the **Search Result** window"**.** In the Search Result Window of **System Mod**e, there will be just 5 information columns for each event log including" **Date, Time, Event, Type** and **Content"**.

- **Device Mode:**

You can search the event by "**Device"** mode and you can also add the "**Time Search**" condition to narrow the search range. By marking the various **Device conditions,** you can decide the search range



The following table lists all of the "**Device Type**"

Device Event	Event Type	Log Message
Camera	Camera Motion	Camera Motion: 1, 2, 3…
	Camera Video Loss	Video Loss: 1, 2, 3…
	Camera Enable	Camera Enable: 1, 2, 3
	Camera Mask	Camera Mask: 1, 2..
	Remote Alarm Record	Remote Alarm Record: 1, 2, 3..
	Camera Disable	Camera Disable: 1, 2, 3
DI	DI is triggered or not.	DI is triggered: 1, 2, 3
DO	DO is triggered or not.	DO is triggered: 1, 2, 3…

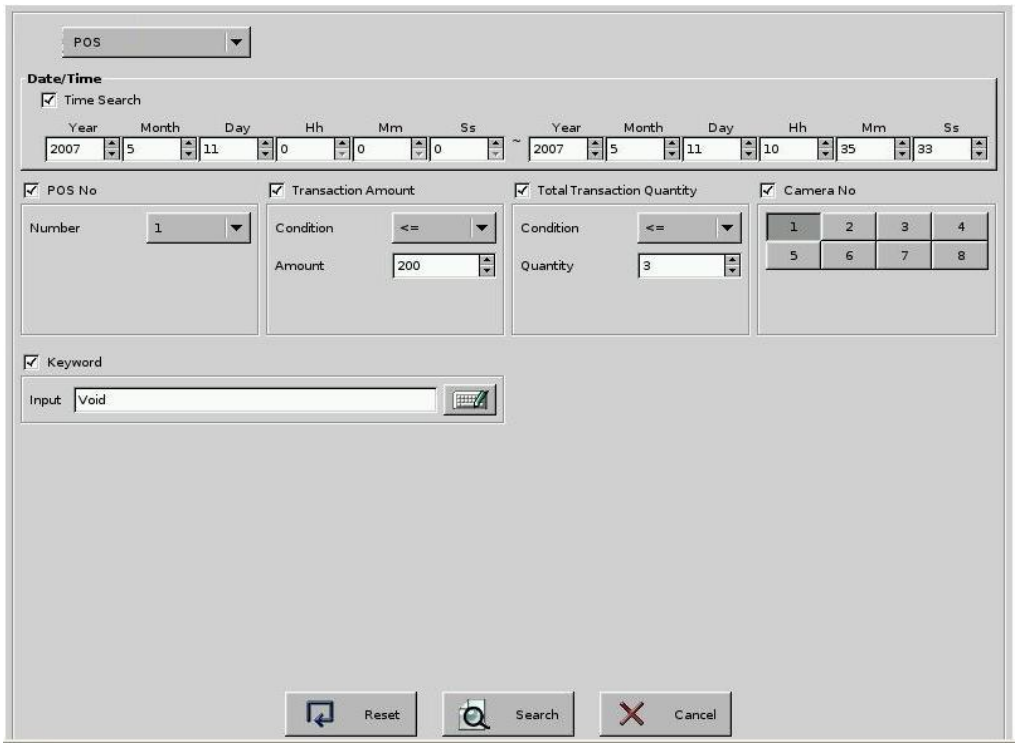
Refer to the **Step 1 to Step 6 of Time Mode Search** to play the event video.

- **POS Event Search:**

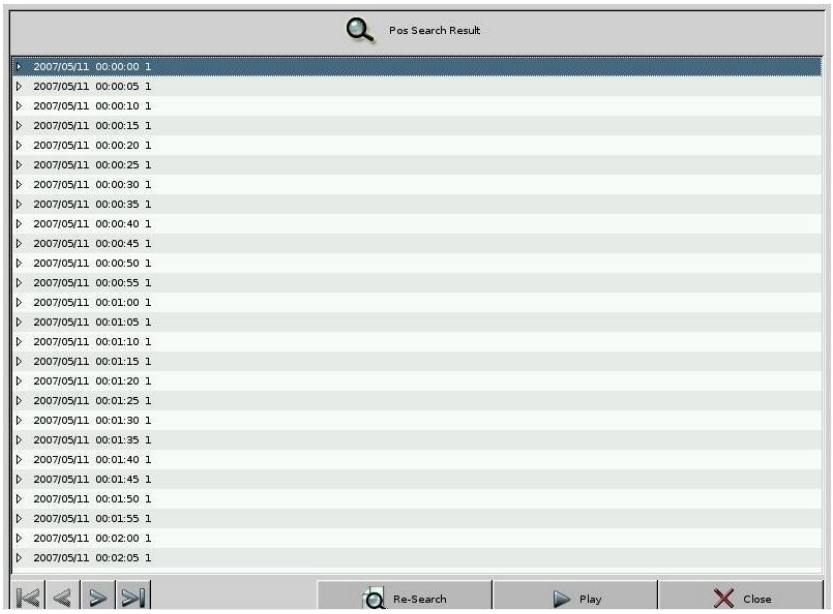
You can search the event by "**POS"** and you can also add the "**Time Search**" condition to narrow the search range. By marking the various **POS conditions,** you can decide the search range.

DVR provides the following search conditions

- POS No: Search the video by POS No
- Transaction Amount: Search the video by setting the transaction amount.
- Total Transactions Quantity: Search the video by setting the transaction quantity.
- Camera No: Search the video by the camera no.
- Keyword: Search the video with the keyword in POS transaction content.

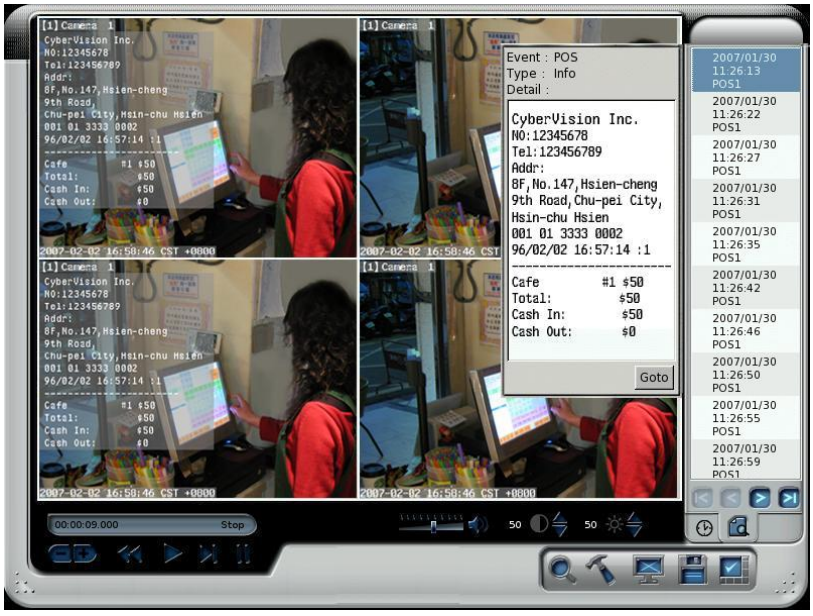


Click “**Search**” to list all of the event logs



Refer to the **Step 4 to Step 6 of Time Mode Search** to play the event video.

There are two ways to see the POS transaction content. One is clicking any POS event log in the search result window and the window of POS transaction content will pop up.

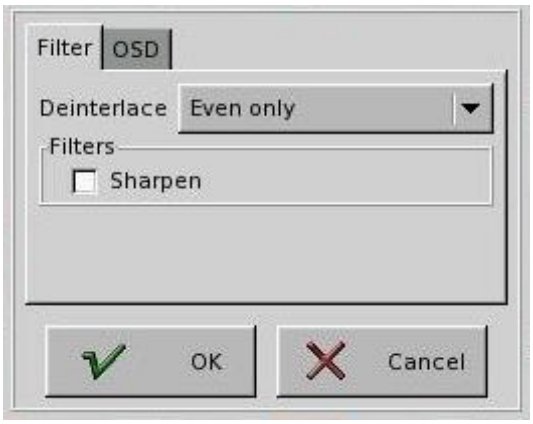


The other one is POS transaction content is directly overlaid on the channel. To enable this function, please refer “**4-3 Playback Configuration**”.

4-3 Playback Configuration

Playback Configuration

When you click Playback configuration icon , DVR will show up the following dialog box. It provides you with the configurations of video and OSD (On-Screen-Print).

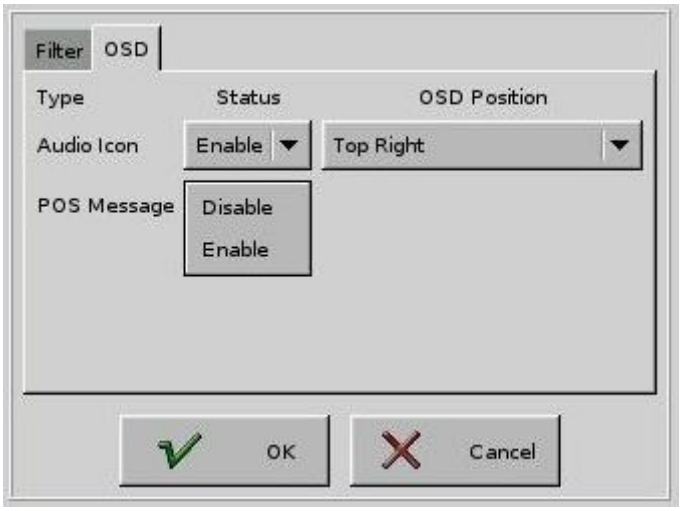


4-3-1 Filter

The configuration of “Filter” is provided you to adjust playback video quality. There are two kinds of modes- “**De-interlace**” and “**Sharpen**”. You can enable these two modes at the same time. In De-interlace mode, you can select “ **Even only**” or “**Weave.**” Each one has different enhancement on playback video quality. You can select the one you prefer to fit your quality requirement.

4-3-2 OSD

The configuration of OSD is to decide what information will be shown on the playback video and where it will be shown. This version provides the function of overlaying the audio icon and POS message on the screen. If you want to overlay the POS message on the playback video, please select “ **Enable**”.

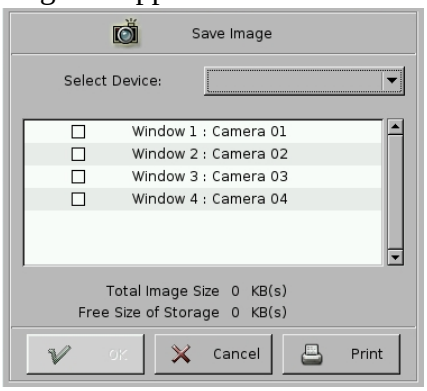

Filter
OSD
Type
Status
OSD Position
Audio Icon
Enable
Top Right
POS Message
Disable
Enable
OK
Cancel

4-4 Snapshot/Backup/Save Log

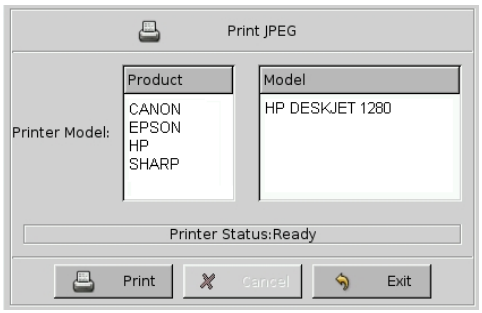
Snapshot/Backup/Save log

4-4-1 Snapshot and save to floppy

In the playback mode, it provides Snapshot function to catch the images that you can print or save them to storage device including floppy or USB storage device (this selection shown after plugging in USB storage device). Click the button and select **Snapshot**. The following dialog will appear:



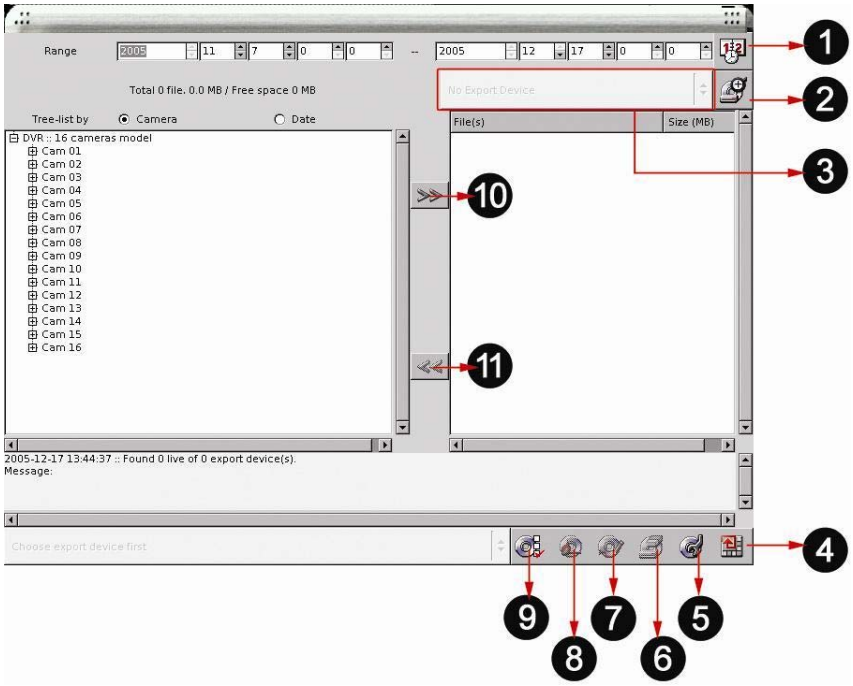
- **Save the Image**
  - Select Device: Select the storage device where you want to save the snapshot images.
  - Select saving channels: Select channels which you want to save the snapshot images from.
- **Print the Image**
  - Select printing channels: Select channels which you want to save the snapshot images from.
- Click " **Print**": Click the " Print button and then select the Printer model you connect.



!	**Note** 1. If Floppy controller in M/B BIOS setting is set as “ Enable” but DVR is not equipped a Floppy drive, it will take over 12 sec to open the menu of Snapshot or Backup Log File after you click “ Snapshot” or “ Backup Log File” icon. Please “Disable” the Floppy controller in MB BIOS setting. 2. This DVR only supports USB printer. If DVR don’t connect a USB printer, the print button will be disabled. 3. The default paper size is A4. 4. If there is any unfinished printing file before printing, they will be automatically deleted. 5. This DVR only supports one USB printer.

4-4-2 Backing up Video Files

You can backup the video files from hard disk to burning device such as CD-R/W or DVD-R/W or USB external storage media, such as USB pen drive or USB Hard Disk. Click the button and select **Export** to see the following screen:



Items	Function	Description
1	Reset Time Range	Reset the time range of burning data.
2	Rescan Device	Rescan burning device.
3	Backup Device	List the available backup device
4	Exit	Exit Burning menu
5	Configuration	Set the burning configuration
6	Erase the disk	Erase the disc before burning data to optical disc
7	Export files	Save file to USB device.
8	Burning disc	Start to burn data to optical device.
9	Verify Disc	Verify if the files are successfully burned to the disc.
10	Select burning file	Select files for burning
11	Delete file	Delete files for burning

4-4-2-1 Backing Up Procedures

1. Before you start to back up the video files, make sure that the back up program has detected the IDE/USB burning devices or USB storages. If not, please check if the device is installed properly and click to rescan the device. After that, the device still can't be detected, please verify if the device is ok.
2. When you put the disc to burning device or plug the USB storage device to the DVR, click the "**Backup Device**" or "**Rescan Device**" to get the device information. The row of "**Selected File Info**" in the upper left screen will show the device space for backing up.
3. **Select the files to back up:**

   Expand the hard drive directories in the left of the screen. Drag the mouse to select the recording files for backup (by Year, Month, Date).
4. **Erase (Blank) the Disk:**

   If you use the burning device such as CD-R/W, DVD+R/RW or DVD-R/W to back up the files, you need to check whether the disc is used. If yes, the icon will lighten after you insert the disk to the recorder.

   a. Click on to start the erasing process.

   b. After it is done, the Message area will display "Done".

!	**Note** If CD-R is used, you do not need to execute this.

   If the Backup device is USB storage and there are already files in it, the icon will also lighten. You can decide if you want to click to delete these files.
5. Click to add these files to the right side of the screen for burning or copy to the burning device or USB storage. If the device is CD-RW, the total size of the selected files should not exceed 600MB.
6. You can browse the other directories (dates) to continue the file selection.
7. If the backup device is burning device and the blank disc in the burning device can be detected, the Burn Disc icon will lighten when you Add the "Selected files" to the

right column of the screen for backup. Click this Burn Disc icon and the system will start to convert the selected files into standard ISO 9660 format files (Make ISO), and burn the files to the disc.

8. If the backup device is USB storage and the device space is enough to back up the selected files, the Export Files icon will lighten when you Add the "Selected files" to the right column of the screen for backup. Click this icon and the system will start to copy the files to the storage.
9. If problems arise while backing up the files, it might be due to the reasons indicated below:
   - The blank CD or DVD disk is in bad quality: Replace with a better quality disk.
   - The CD-RW or DVD+R/RW or DVD-R/RW has been used too many times: Replace with a new disk.
   - The burning device cannot process high-speed burning: Reduce the burning speed.
   - The blank disc does not support high-speed burning: Reduce the speed, or replace with high-speed compatible disk.
10. You can click Configure icon to set up the " Burn Disc, " Export File" and " Erase Disc/ Storage".

!	**Note** • Not support Pioneer DVD+R • Not support Transcend USB Pen drive. • USB storage devices only support FAT16/FAT32 format. • There may be compatible issue between USB external hard drive and system.

4-4-2-2 Check the Backed Up Files

This DVR provides you with the function to check if the files are successfully burned to the disc.

- **Automatic verification after files burning**

  Step #1 Click **Configure** icon and it will pop up the menu as below.

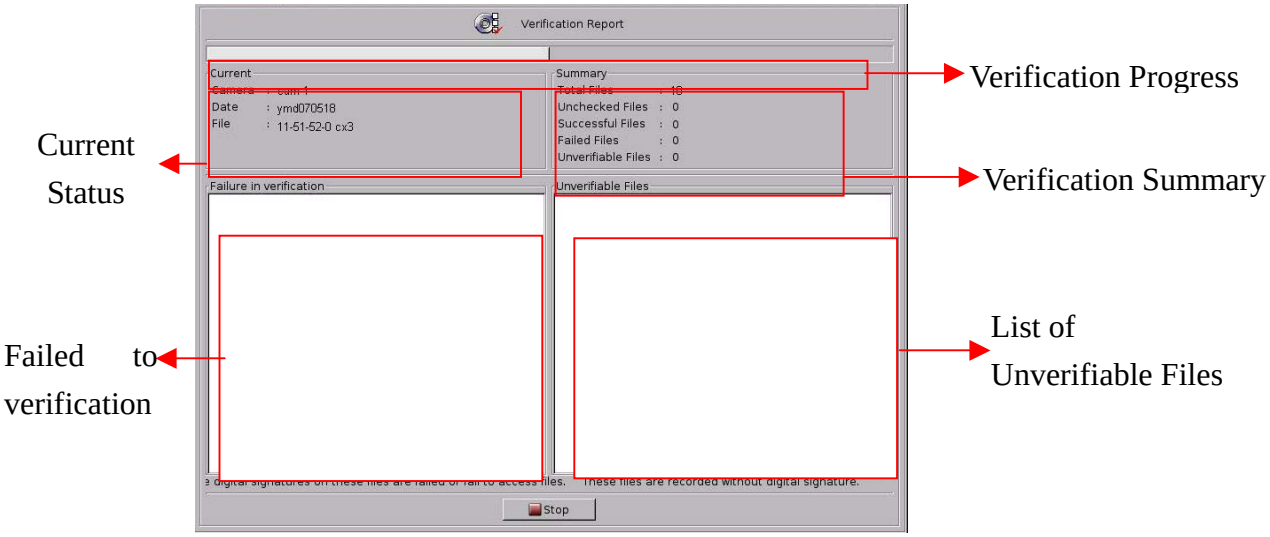
Burning/Exporting files with DVR player program
Use fast mode to Blanking disc
Eject CD/DVD disc after burning/blanking disc
Verify files in disc after burning
OK
Cancel

Step #2 Click **" Verify files in disc after burning"** and enter "**OK**" button to save the burning configuration.

Step #3 Start to proceed with file burning. Please refer **Chapter 4-4-2-1 Backing Up Procedures**.

Step #4 Verification Report

After files burning are complete, the DVR will automatically create a verification report as below.



◆ **Verification Summary:**

Total Files: The numbers of files that should be verified.

Unchecked Files: The numbers of files that are not checked.

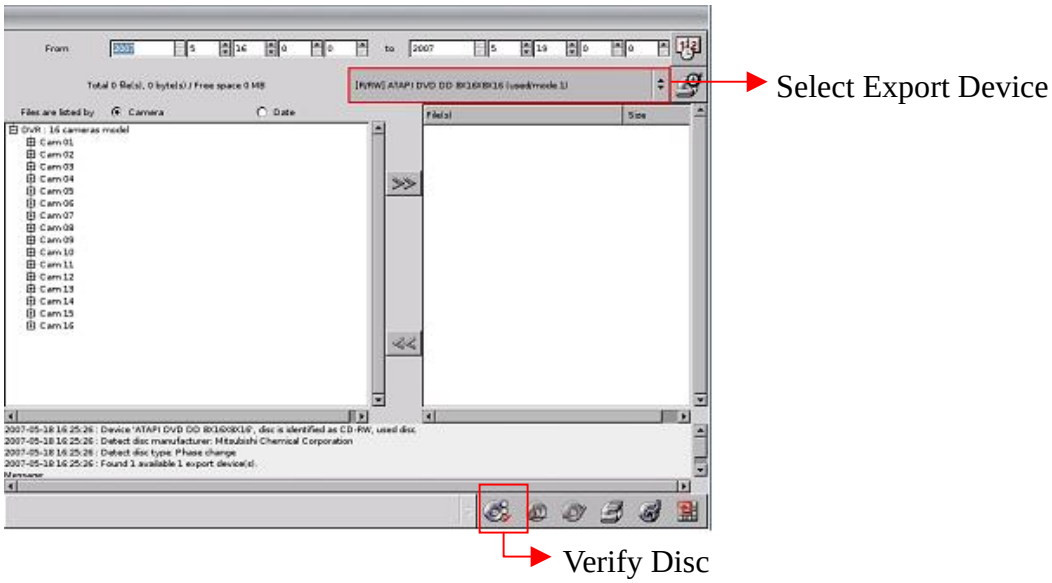
Successful Files: The numbers of files that are successfully checked.

Failed Files: The numbers of files that are failed to burn to the disc or failed to add digital signature.

Unverifiable Files: The numbers of unverifiable files. If you don't enable " Digital Signature" when recording, the recording files can't be verified

- **Manual verification after files burning**

Step #1 Select device as " **CD-ROM/DVD-ROM**".



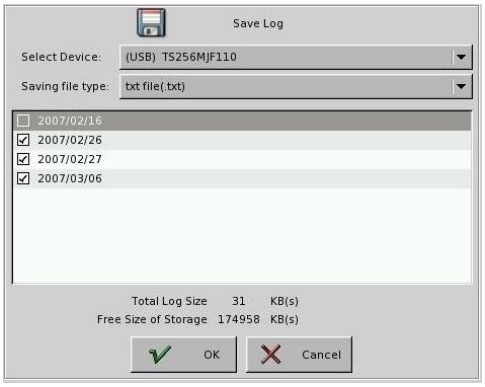
Step #2 Click the button of "**Verify Disc**"

If there are no CX3 files in the disc after files burning, the message below will be prompted and that means the files are failed to burn to the disc.

!	**Note** You should enable " Digital Signature" in system configuration when recording. If you don't enable " Digital Signature", the recording files can't be verified and will be marked as "Unverifiable Files".

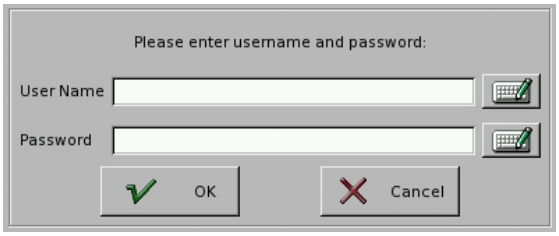
4-4-3 Backup Log File

You can backup the log file to external storage device. DVR provides two log file formats. “txt” and “ cvl”. Click “Select Device”, “log file format”. We recommend you to use “txt” format.

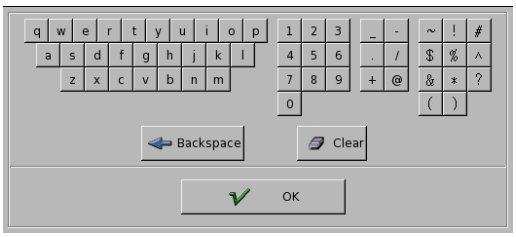


5.System Settings

Click the icon on the main screen to go to the system settings page.



Click on the keyboard icon to enter the user name and password of " Administrator".



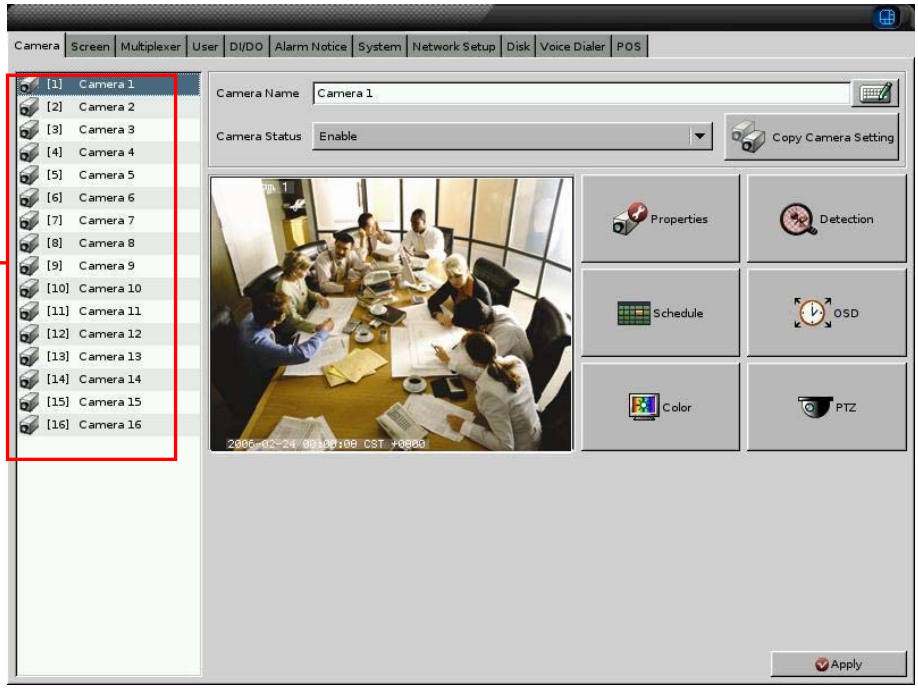
To exit the System Settings, click on the upper right corner in the "System Settings" menu.

!	**Note** The preset user name and password of Administrator are as below, • Preset user name: admin • Preset password: **1111**

5-1 Camera Setup

Beside analog cameras, this DVR system also supports IP cameras to build a Hybrid DVR system or NVR system. However, this function is optional. If you have Hybrid requirement, please ask your supplier for details. The default cameras listed in the “Camera List Window” in Camera Setup menu are only analog cameras. If your DVR supports Hybrid function, you can add IP cameras by clicking the tab of “Add” or delete IP camera by clicking “Delete” tab in Camera Setup menu. Please Chapter 5-1-1 for Analog Camera configuration and Chapter 5-1-2 for IP Camera configuration.

Camera List Window:



!	**Note** ● Currently, only SV1000, HV3000 & HV5000 products support Hybrid function. ● Hybrid function is optional. If you have Hybrid requirement, please ask your supplier for details.

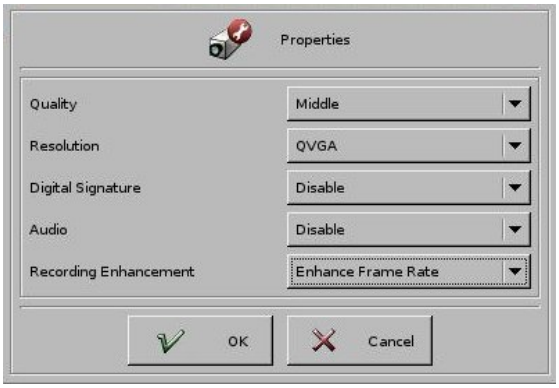
5-1-1 Analog Camera Setup

1. Select the desired camera for setup.
2. **Camera Name**: Use the “keyboard figure” on the right of “Camera Name” field to enter the description for the camera.
3. **Camera Status** (Disable/Enable/Hide): If the channel is not connected to a camera, set “Disable”. If it is connected, set “Enable”. If you do not want the camera image to be showed on the main screen, set “Hide”.

!	**Note** If a camera is set as “hidden”, the video is still recorded in the hard disk.

4. **Properties**

: Set each camera recording behavior.



4-1 Quality (Poor/ Low/ Middle/ High/ Best): You can adjust the recording quality. The higher the quality setting, the more hard disk space will be consumed.

4-2 Resolution: You can adjust the recording resolution. There are several resolution modes for selection depending on the DVR model that you install. The higher the number, the better the quality. However, the higher quality setting will consume more hard disk space.

4-3 Digital Signature (Enable/Disable): The setting allows you to encrypt digital signature (watermark) to the video content.

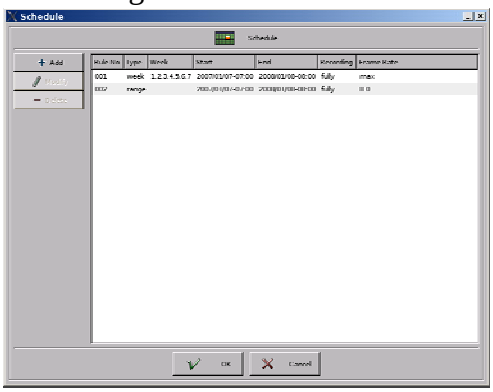
4-4 Audio: Beside the video, this DVR system also supports audio input on video channel. The number of audio channel supported by your DVR system depends on the model you install from one channel to maximum 16 channels. If you want

to have the audio recording on any channel, just enable the audio function.

!	**Note** ● This version, only analog cameras support audio function.

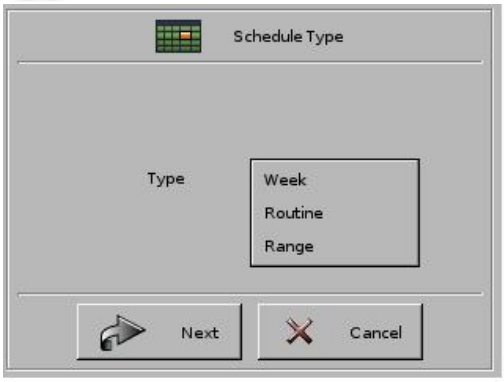
4-5 Recording Enhancement: There are two options. One is " Enhance Frame Rate" and the other one is "**Enhance Quality**". "**Enhance Frame Rate**" is used to enhance recording frame rate and "**Enhance Quality**" is used to enhance recording quality. The average recording file size in "**Enhance Quality**" mode" will be three times smaller than the one in "**Enhance Frame Rate**" mode. Therefore, if user wants to get better recording quality with smaller recording file size, he can select "**Enhance Quality**" for recording and if he wants to get high recording frame rate, he can select "**Enhance Frame Rate**" for recording.

5. Recording Schedule : You can define individual camera recording rule and arrange recording schedule.



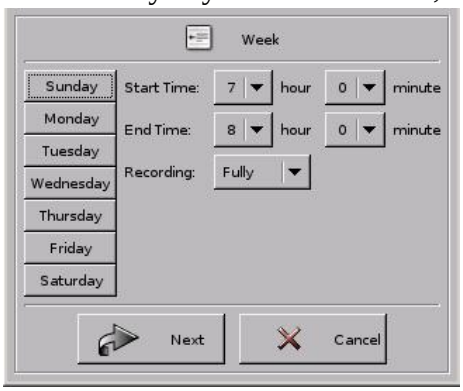
- **Add:** Add a new recording rule.
- **Modify:** Modify existing recording rule.
- **Delete:** Delete recording rule.

When you click "Add/Modify", the dialog box below will appear.



5-1 Schedule Type: There are three types of recording schedules.

5-1-1 Week (Cycle Type): You can set the recording schedule of one week from Monday to Sunday. By the unit of week, DVR will repeat the recording type weekly.

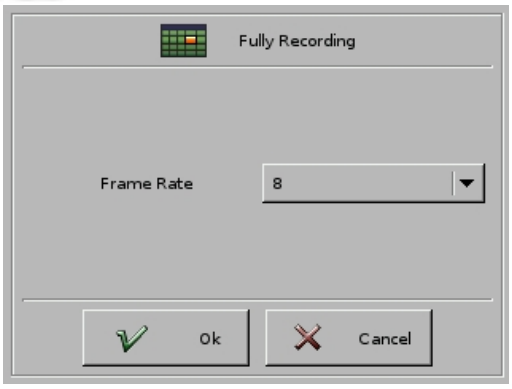


#Step 1: Select a day

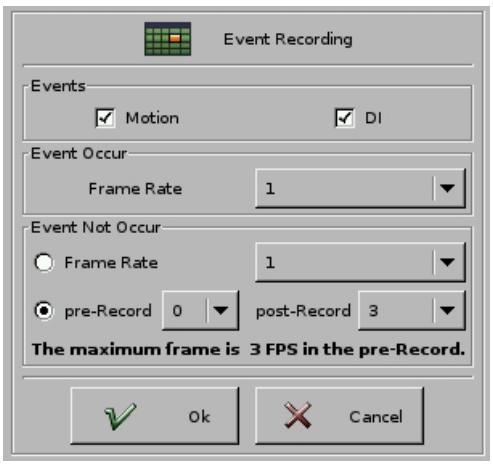
#Step 2: Set the recording period: Select recording " **Start Time and End Time**

#Step 3: Set the "**Recording Type**". There are two kinds of Recording type, **Fully Recording** and **Event Recording.**

- **Fully Recording:** You can adjust the recording frame rate for fully recording from 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 20, 25 to max. The higher the number is, the higher frame rate it will be recorded. However, with higher frame rate, the hard disk space will be consumed faster.



- **Event Recording:**
  (1) Events (Motion/DI): Set up the Motion or DI event to trigger DVR recording.
  (2) Event Occur: Set up recording frame rate when event occurs.
  (3) Event Not Occur: Set up recording frame rate when event does not occur. There are two options to select. One is "pre/pos Recording and the other one is "Low frame Rate recording. For the pre-Record setting (0/1/2/3/4/5/6/7/8/9/10) is to record a certain seconds before an alarm happens. And post-Record setting (0/1/2/3/4/5/8/10/15/20) is to record a certain seconds after an alarm happens.

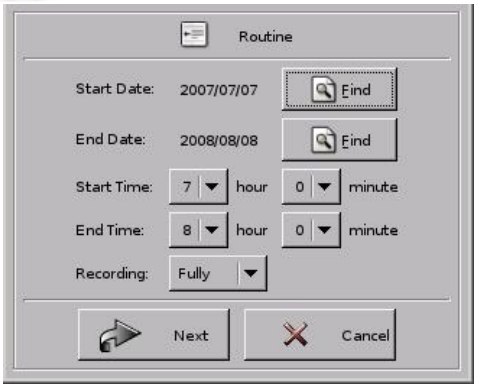


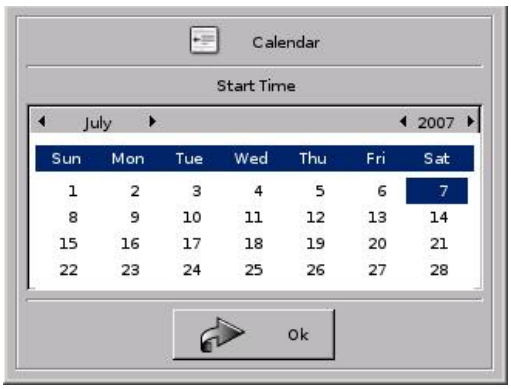
5-1-2 **Routine Type:** By the unit of day**,** DVR will repeat the same recording type during the period you select.

#Step 1: Set the period you want to repeat the same recording type. Select the **Start Date** and **End Date**.

#Step 2: Set the " **Start Time and End Time"** of one day.

#Step 3: Set the "**Recording Type**" in this recording period of a day. Please refer to the **Week** (**Cycle type)** above.





5-1-3 **Range type:** DVR will use the same recording type during the period you select.

#Step 1: Set the **Start Date, hour and minute.**

#Step 2: Set the **End Date, hour and minute.**

#Step 3: Set the "**Recording Type**" in this recording period. Please refer to the **Week (Cycle type)** above.

5-2 Comparison between "Week", "Routine" and "Range" recording Type:

Below pictures compare the difference among three recording types by setting fully recording from 6:00 to 18:00, 2007-07-01 to 2007-07-05.

- Week Type:

Setting: Full recording from 6:00 to 18:00, Monday to Sunday.

Hour/Date	Sun	Mon	Tue	Wed	Thu	Fri	Sat
0							
6							
12							
18							
24							

- Routine Type:

Setting: Full recording from 6:00 to 18:00, 2007-07-01 to 2007-07-05

Hour/Date	07-01	07-02	07-03	07-04	07-05
0					
6					
12					
18					
24					

Setting: Full recording from 18:00 to 6:00, 2007-07-01 to 2007-07-05

Hour/Date	07-01	07-02	07-03	07-04	07-05
0					
6					
12					
18					
24					

- Range Type:

Setting: Full recording from 6:00 to 18:00, 2007-07-01 to 2007-07-05

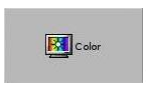
Hour/Date	07-01	07-02	07-03	07-04	07-05
0					
6					
12					
18					
24					

Setting: Full recording from 18:00 to 6:00, 2007-07-01 to 2007-07-05

Hour/Date	07-01	07-02	07-03	07-04	07-05
0					
6					
12					
18					
24					

5-3 Priority of Schedule Type

Rule of Routine and Range schedule type will be prior to Week schedule type. That means if there is time overlapping between Week type and Routine type or Week type and Range type, the Rule with Routine type and Range type will overwrite the Rule with Week type in the overlapped time frame. However, Routine and Range type are with the same priority and can't overwrite each other. That means the new rule with Routine or Range type can't be successfully built up if the time frame of new rule overlaps the existing rule with Routine or Range type.

6. Color 

: Here you can adjust Contrast/ Brightness/ Hue/ Saturation. **Color Adjustment** function is also provided in the one channel monitor mode. That means user also can adjust color in single monitor mode except that " Administrator " enables "Hide Color adjust" in " **System"** page under "**System configuration**" for security concern. (Please refer to the Chapter 5-7 "**System**" setting).

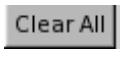
7. **Detection**

: Set the Motion Sensitivity, Motion Detection Area and Camera Mask.

7-1 Sensitivity (10/20/30/40/50/60/70/80/90/100): You can set the sensitivity of motion detection during recording. It is recommended to adjust the setting to 100 in order to prevent any data loss. However, in some special conditions, the system continues to record even when no motion has occurred. This will result in a considerable amount of useless data being recorded. In such a case, it is recommended to lower the sensitivity setting to avoid wasting hard disk.

7-2 Motion Detection Area: This is used to set the motion detection area.

- Method One

  (1) Click 

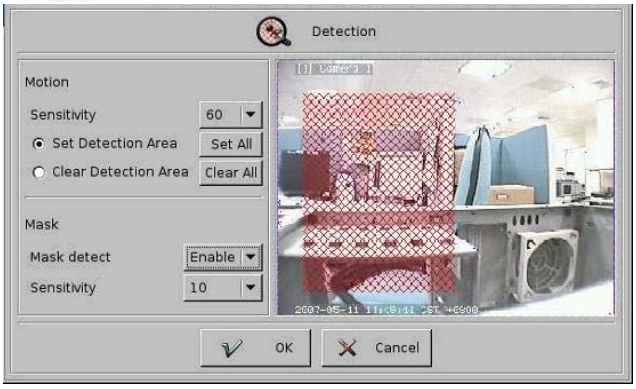
  (2) Select “Set Detection Area” and use the mouse to drag an area to be detected.
  (3) You can set many detection areas by dragging mouse again.

- Method Two

  (1) Click

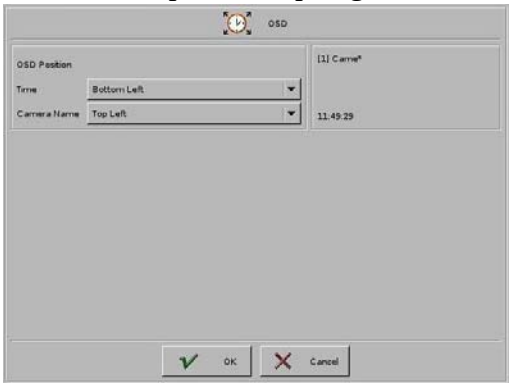
  (2) Select “Clear Detection Area” and use the mouse to drag a non-detection area.
  (3) Drag the mouse again to set more non-detection areas.

7-3 Camera Mask: If you enable “**Camera mask detection**”**,** live monitor will show “ **Mask**” and DVR will record a log to remind the user when camera is masked.



8. **OSD**

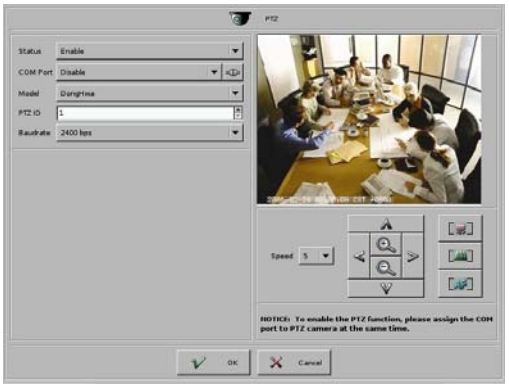
: **OSD** (On Screen Display) **Position**: you can select where the "time" and "camera name" will be displayed in the image in live view. There are four positions to choose from: Top Left, Top Right, Bottom Left and Bottom Right.



!	**Note** SV2000 V5.01 and above version only supports two OSD positions-Top Left and Top Right.

9. **PTZ**

: Set the PTZ camera.



To make the PTZ camera function correctly, please follow the instructions below:

1. Connect the PTZ to RS485 port (via RS485 Adapter).
2. Set PTZ" Status to "Enable"
3. Set the COM port that you use to connect to PTZ.
3. Select PTZ Model according to the PTZ you install.
3. Refer to the user manual of PTZ to setup the baud rate and ID.

Now, you can control the PTZ camera using the control panel in this page.

: Focus near

: Focus far

: Auto focus

Preset function:

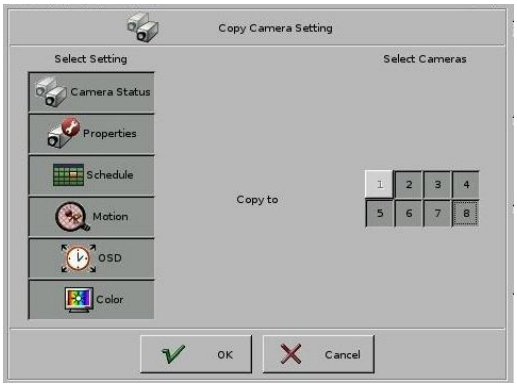
1. Select preset point 1.
2. Move the PTZ camera to the position 1 using the panel.
3. Click "save".
4. Select other preset points and follow the same procedure to set up.
5. Totally we support 128 preset points.

Auto-Pan function:

1. Click "Set Pan Start"
2. Move the PTZ camera, the PTZ will remember the path.
3. Click "Set Pan End".

	Note 1. Preset and Auto-pan function is different from protocol to protocol. 2. The above example is given using Yoko protocol for example. 3. If user selects Eyeview PTZ model, please set Baud Rate as 2400 in DVR and physically set the PTZ protocol as Pelco D in Eyeview PTZ according to the Eyeview's user manual. If it still can't work, please contact your PTZ supplier to check the firmware in your PTZ is latest version.

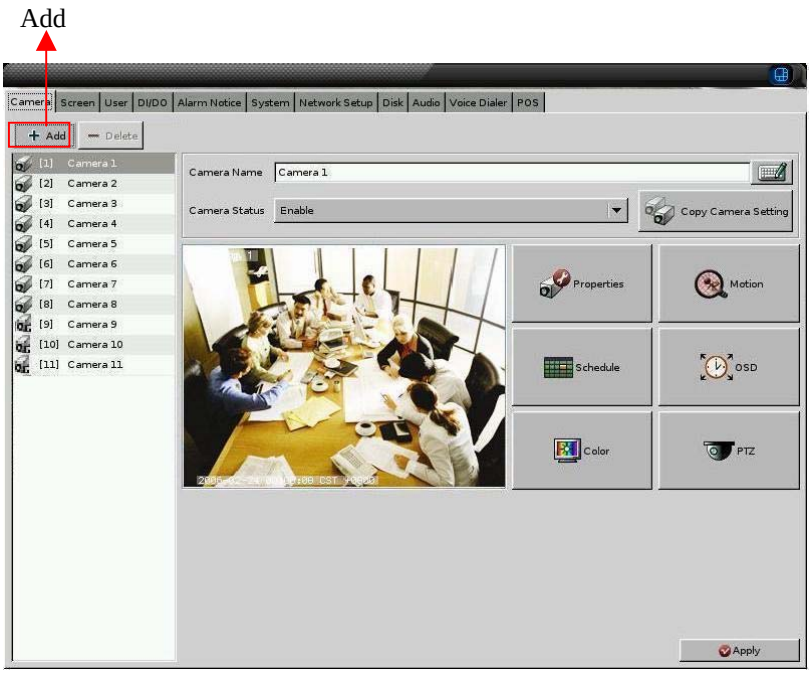
10. **Copy Camera Setting**: After finishing the camera setup for one camera, you can click the "Copy Camera Setting" button, located on the upper right of the "Camera Setup" screen, to copy the setting of this camera to other cameras. This saves time and effort. Below dialog will appear. Click the setting area you would like to copy (Refer to the three "areas" below), and then click the cameras located on the right of the screen and click "OK".



5-1-2 IP Camera (Optional)

Before you start to set the IP camera configuration, you should connect the IP CAM to a HUB/switch and set up the IP address of the IP cam in the software provided by your IP cam supplier.

1. Click "**Add**" tab on the upper left of Camera List Window.

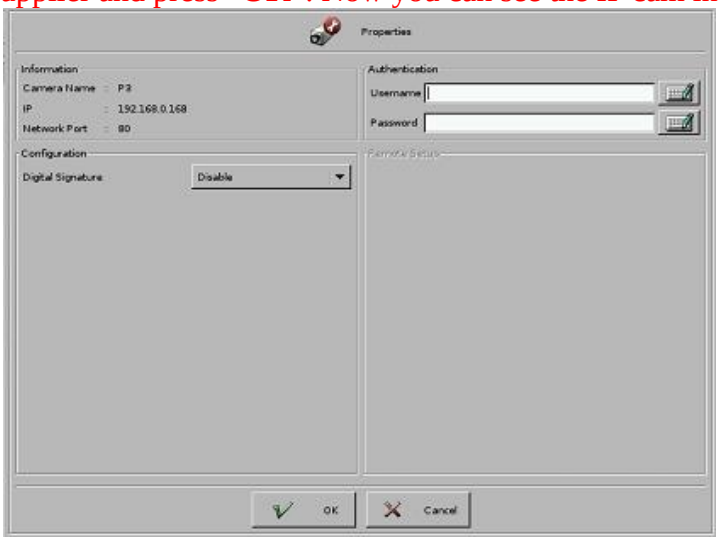


2. Select the IP CAM model.

This version supports Panasonic, Axis and Vivotek IP cameras.

3. Enter IP Address of IP cam & connection Port number

4. Enter Username & Password of IP cam that you set in the software provided by IP cam supplier and press "**OK**". Now you can see the IP cam in the camera list.



5. Follow the other configurations of Analog camera described in **Chapter 5-1-1** to finish the

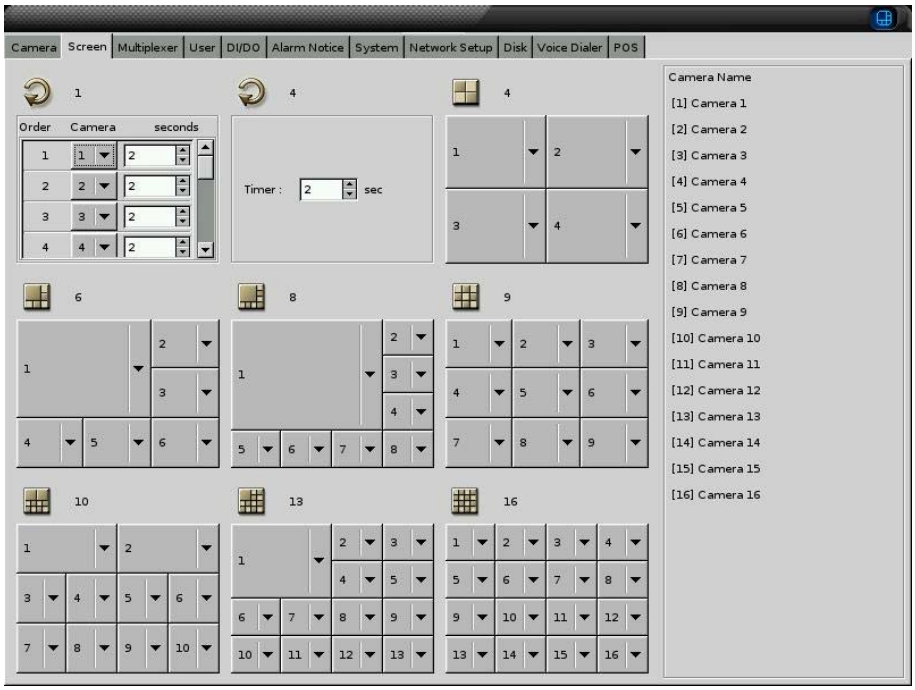
IP cam configurations.

6. Save the configuration and you can start to use the IP CAM.

!	**Note** 1. Make sure your Network is working. You can ping your **DVR** in another Window PC. 2. Maker sure your IP cam connects to the network. You can detect the IP cam via the software provided by IP CAM supplier to make sure it works or not. 3. Make sure the IP CAM model you select is correct. 4. If **DVR** is in the LAN (Local Area Network) network, the network mask of **DVR** and IP CAM must the same. Please refer to the Chapter 5-8 Network Setting 5. If **DVR** is in the WAN(Wide Area Network) and your IP CAM is behind the Firewall/NAT, Please assign a port to the IP CAM. 6. If you enable the Authentication function of IP CAM in the software provided by IP cam supplier, please make sure you enter the right Username & Password in the **DVR** setup. 7. This version only supports MJPEG compression codec 8. This version doesn't support PTZ, audio and resolution configuration on IP cam and will be supported in the later version. 9. When setting color parameters of IP camera, the response time will depend on network bandwidth.

5-2 View Setup

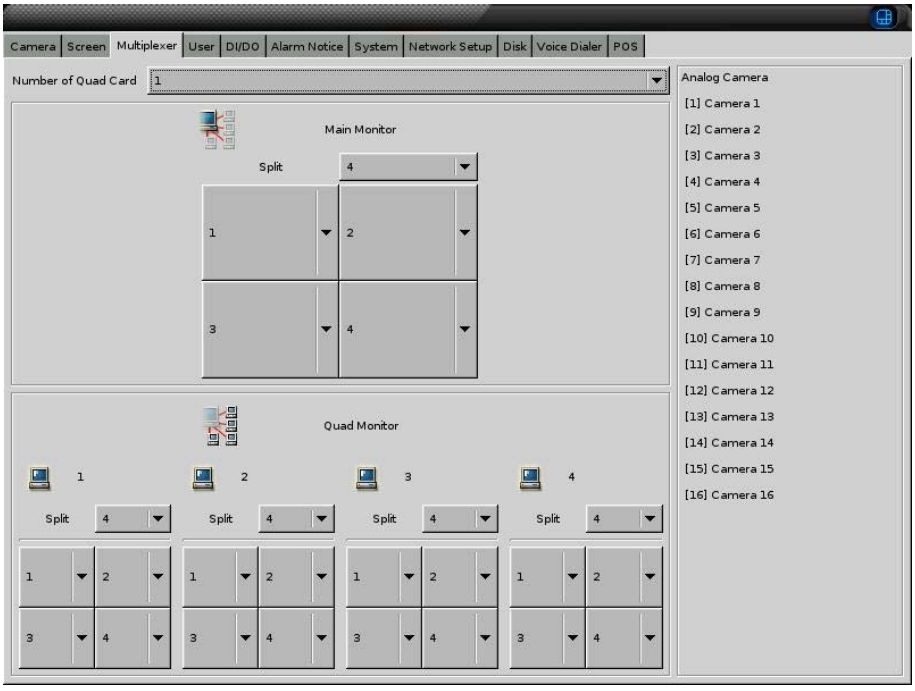
Clicking the “Screen” tab will display the view setup screen as following.



1. There are 7 kinds of Display mode, 4 splits, 6 splits, 8 splits, 9 splits, 10 splits, 13 splits, and 16 splits.
   Click the “small block” on the split screen, and then you can modify the camera shown on each split screen. An example for the description of the all cameras when doing the view setup is located on the right side of the table.
2. Sequencer Setting
   There are 1 channel and 4 channel sequencer modes. For the one channel sequencer mode, you can set up the desired sequencer order and duration (up to 300 seconds). For the four-channel sequencer mode, the display format is 4 spilt and you can set up its sequencer duration.
3. “ Deinterlace” in SV2000
   This function provides “Deinterlace” in display mode and only SV2000 has this function. You can “**Enable**” it if you want to have “Deinterlaced” video quality in display mode.

5-3 Multiplexer (Optional)

This configuration menu will only exist when your DVR system equips with Multi-Quad Card (MQ16) at the same time. Multiplexer can provide with the function of multiple analog BNC outputs with Main monitor and Quad monitor outputs.

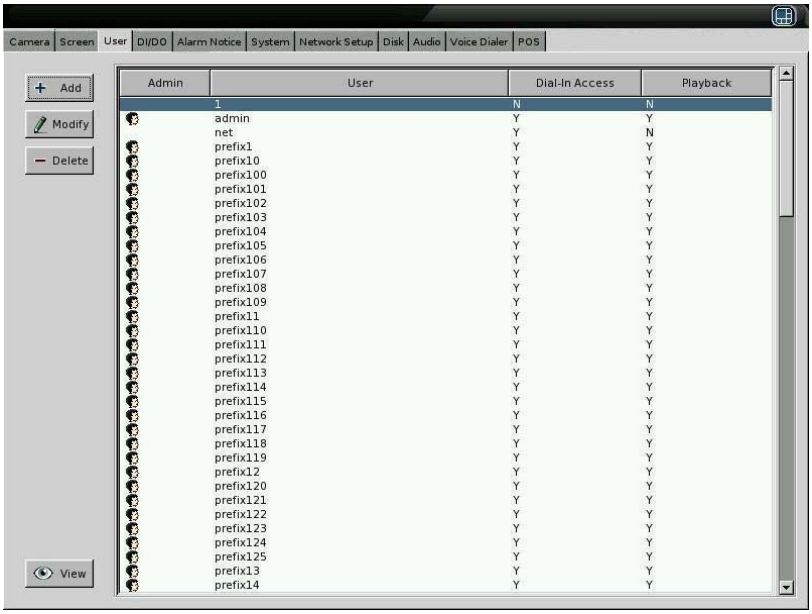


- **Number of Quad Card:** The number of Quad card installed in your DVR.
- **Main Monitor:** You can set the number of split screen in Main monitor and the channels displayed in it. The maximum number of spilt screen is 16. For 16-channel DVR system, there are totally 1, 4, 6, 8, 9, 10, 13 and 16-split modes for selection.
- **Quad Monitor:** There are 1- and 4-split modes for each Quad monitor and you can assign the channels to display in each Quad monitor. The max number of Quad monitors supported by each Quad card is 4 monitors.

	Note • Only analog camera can be displayed in these monitors.

5-4 User Account Management

User Account Management function allows the administrator to create users, assign the authorized actions to secure the system. To start using this function, click on the **User** icon.



This DVR provides two system preset accounts. The user names and passwords for these two accounts are as below.

- User name: "**admin**"; Password: "**1111**" is for the system management account. This account cannot be deleted.
- User name: "**net**"; Password: "**1111**" is for the normal user account. This account can be deleted.

To see more details of the account information, click **View** on the bottom left of this screen.

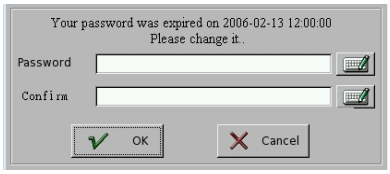
[Add User Account]:

Click "Add" icon to add new user accounts as the screen below.

- Enter the name and password for the new user.
- Administrator Account/ Normal User Account: Only administrator account can enter the system setup menu to change the settings. The default settings of “Camera Permission” and “ Export Log ” are enabled for “**Administrator**”.
- Camera Permission: Click “Setup” icon to set user permission as below.

	Note • You can define different levels of user permission on Monitor and Playback authority. Please refer to **Chapter 5-7 System** to enable “ Playback” and “ Monitor” authorization in advance. • The preset user of “admin” can’t be deleted.

- Dial-In Access: This option is to enable/disable the user to dial into the DVR, i.e., to access the system through modem.
- Export Log: The permission of export SYSTEM Log.
- Password Expire Setup: This is the notification of password expiration. The time setup range can be 1~365 days. When the password expires, the following dialogue will appear:



- Remote DO Control: This function enables remote application, ex CMS, to toggle DVR DO device.

[Modify User Account]

Click “Modify” icon to modify the existing user account.

The operation is similar to that of the “Add User Account” above.

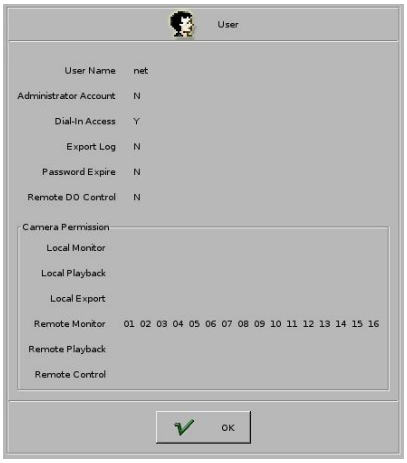
[Delete User Account]

Click “Delete” icon to delete the user account. A screen will display as follows.

Click “OK” if you would like to delete this user account.

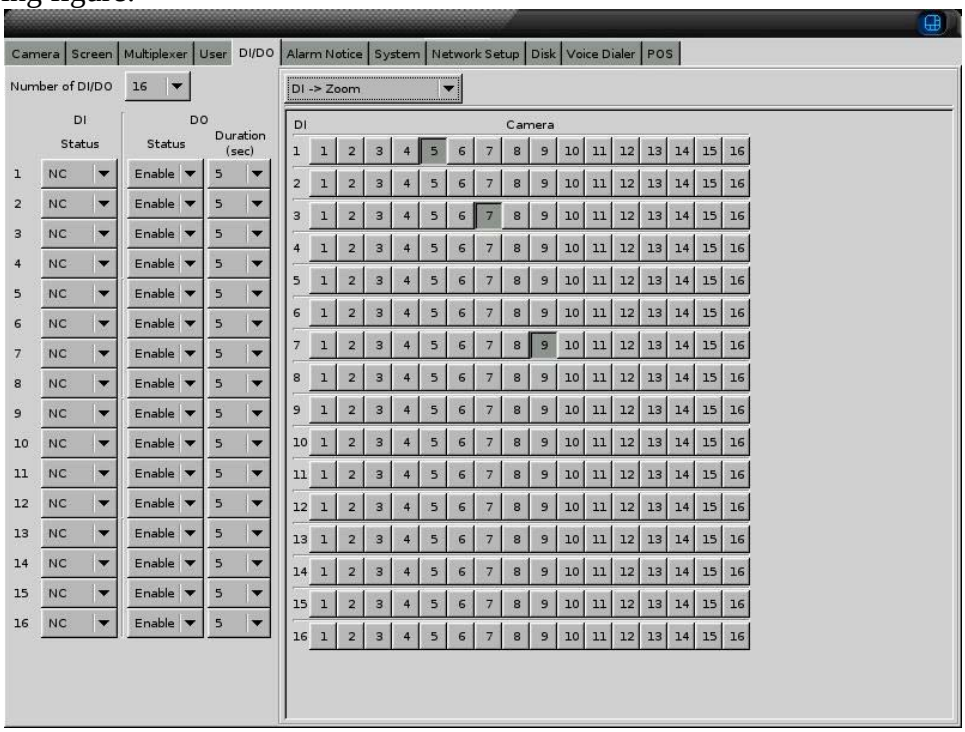
[View]

Click “View” icon to see the account authorization.



5-5 DI/DO

Click on the **DI/DO** icon and select the total number of DI/DO installed on your system to see the following figure:



[DI Status]

Choose Disable, NC, or NO according to your DI device (e.g., photo sensor).

- Disable: Disable the DI function.
- NC (normal closed): The signal loop is closed under normal conditions. When the loop becomes open, DI will be triggered until the loop becomes closed again. In other words, if the loop keeps on open for a period of time, DI will keep on triggering in that time interval.
- NO (normal open): The signal loop is open under normal conditions. When the loop becomes closed, DI will be triggered until the loop becomes open again. In other words, if the loop keeps on closed for a period of time, DI will keep on triggering in that time interval.

[DO Status]

- Disable: Disable the DO function.
- Enable: Enable the output signal when DO is triggered.
- Set the duration of DO signal. The available durations are 5, 10, 30, 60, 120, 300, 600,

1800 and 3600 seconds. If DO is triggered, in this time interval, DO will keep on triggering.

[Action]

There are 6 actions that are related to the DI/DO functions.

- **DI →Camera Recording**

  When DI is triggered, DVR can start to record the video of selected cameras. You can select the cameras to be recorded when DI is triggered by using the "DI/Camera array" shown below the setting. Each DI signal can trigger more than one camera recording.

- **Cam Motion →DO**

  When selected camera detects motion, selected DO can be triggered and start to send control signal to the external device (e.g., alarm) within the DO duration. The "Camera/DO array" below the setting allow you to relate the DO devices corresponding to each camera.

- **Cam V-Loss →DO**

  When selected cameras lose the video signal, selected DO can be triggered and start to send control signal to the external device (e.g., alarm) within the DO duration. The "Camera/DO array" below the setting allow you to relate the DO devices corresponding to each camera.

- **DI →DO**

  When selected DI is triggered, selected DO can be triggered and start to send control signal to the external device (e.g., alarm) within the DO duration. The "DI/DO array" below the setting allow you to relate the DO devices corresponding to each DI.

- **System Event →DO**

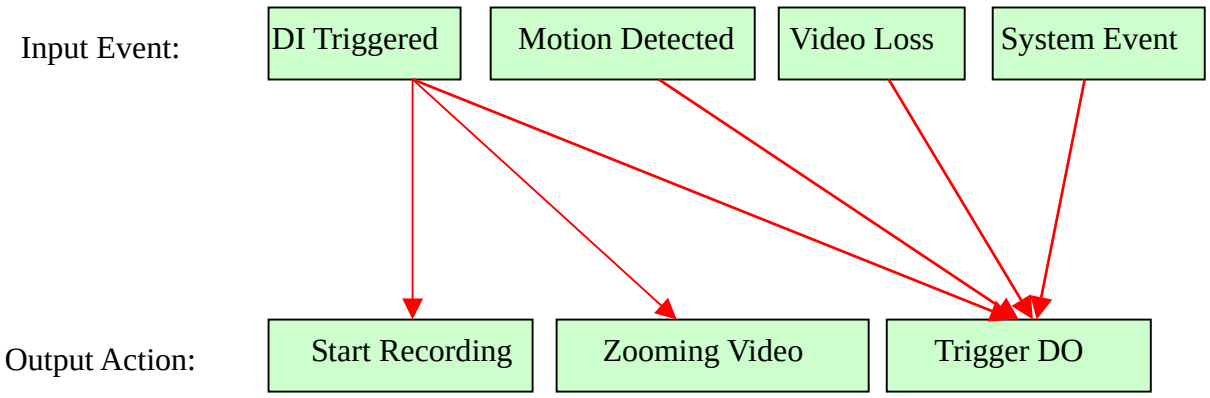
  There are two types of system event. One is " **System Warning**" and the other one is "**System Error**". When system event occurs, selected DO will be triggered and start to send control signal to the external device (e.g., alarm) within the DO duration. The "Event/DO array" below the setting allow you to relate the DO devices corresponding to each system event.

- **DI →Zoom**

  When selected DI is triggered, selected camera will be triggered and its image will be

zoomed in the “Motion/Alarm Zooming area” (refer to Chapter 3-2).

Below figure may help to understand the concept described above.

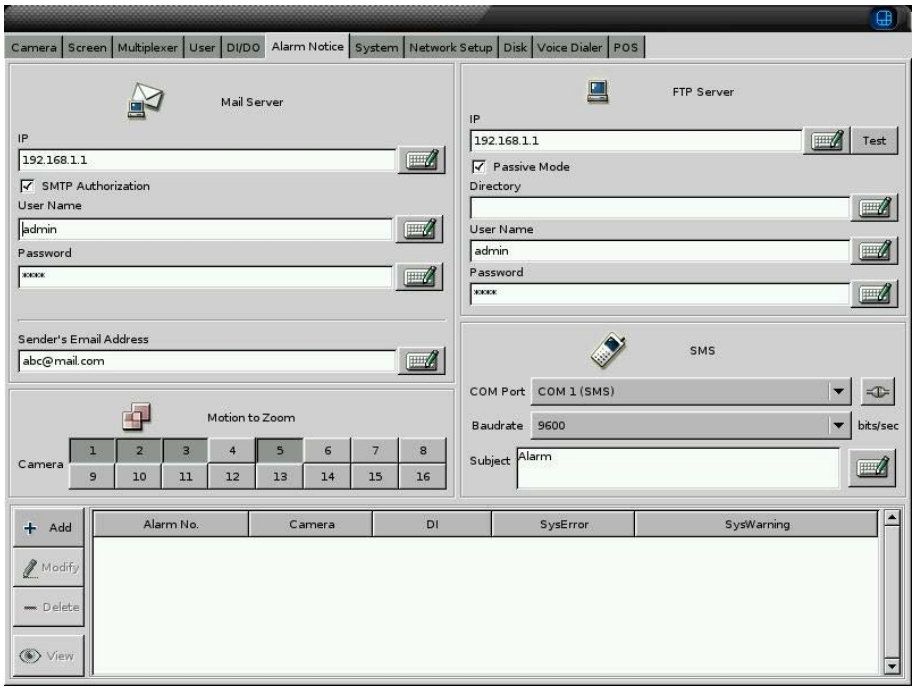


5-6 Alarm Notice

The DVR can send four types of alarm to your pre-defined **email addresses**, **FTP site**, **mobile phone number (**via **SMS) or Voice dialer**. This section gives step-by-step instructions to send different alarms to each destination. We define four types of alarm sources as below.

Alarm Source	**Definition**
Motion Alarm	Motion is detected in selected cameras (despite the recording mode is full recording, motion sensor recording or no recording).
DI Alarm	Selected DI is triggered.
System Error Alarm	(1) Hard disk error, or (2) Camera lost signal.
System Warning Alarm	1. Hard disk is going to enter recycle mode (free space less than 4GB), or 2. Hard disk has being in recycle mode.

First, please click on the icon "**Alarm Notice**" to see the following figure:

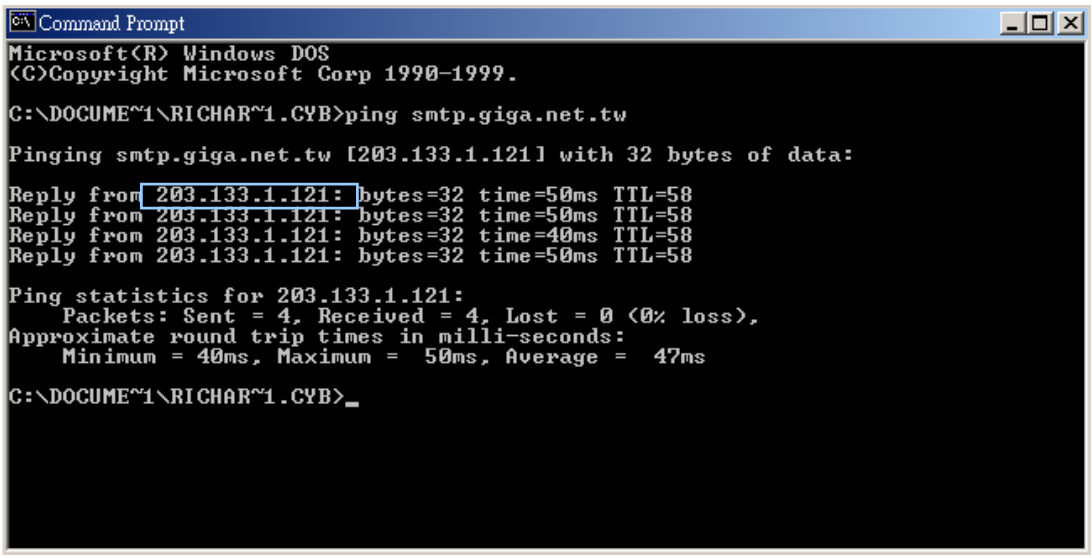


[**Alarm to Email]**

(1) Make sure the DVR system connects to Internet.

(2) Key in the IP address or the hostname of the mail server. If the mail server requires user name and password to send emails, please click the icon “Authorization SMTP” to enter the user name and password.

!	**Note** If you don’t know the IP address of your mail server, you can ping the mail server to get the IP address as following figure.


Command Prompt
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-1999.
C:\DOCUME~1\RICHAR~1.CYB>ping smtp.giga.net.tw
Pinging smtp.giga.net.tw [203.133.1.121] with 32 bytes of data:
Reply from 203.133.1.121: bytes=32 time=50ms TTL=58
Reply from 203.133.1.121: bytes=32 time=50ms TTL=58
Reply from 203.133.1.121: bytes=32 time=40ms TTL=58
Reply from 203.133.1.121: bytes=32 time=50ms TTL=58
Ping statistics for 203.133.1.121:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 40ms, Maximum = 50ms, Average = 47ms
C:\DOCUME~1\RICHAR~1.CYB>

(3) Key in sender’s full email address. It must be a valid email address.

(4) Add Alarm Notice: Click the icon **Add** to see the follow figure.

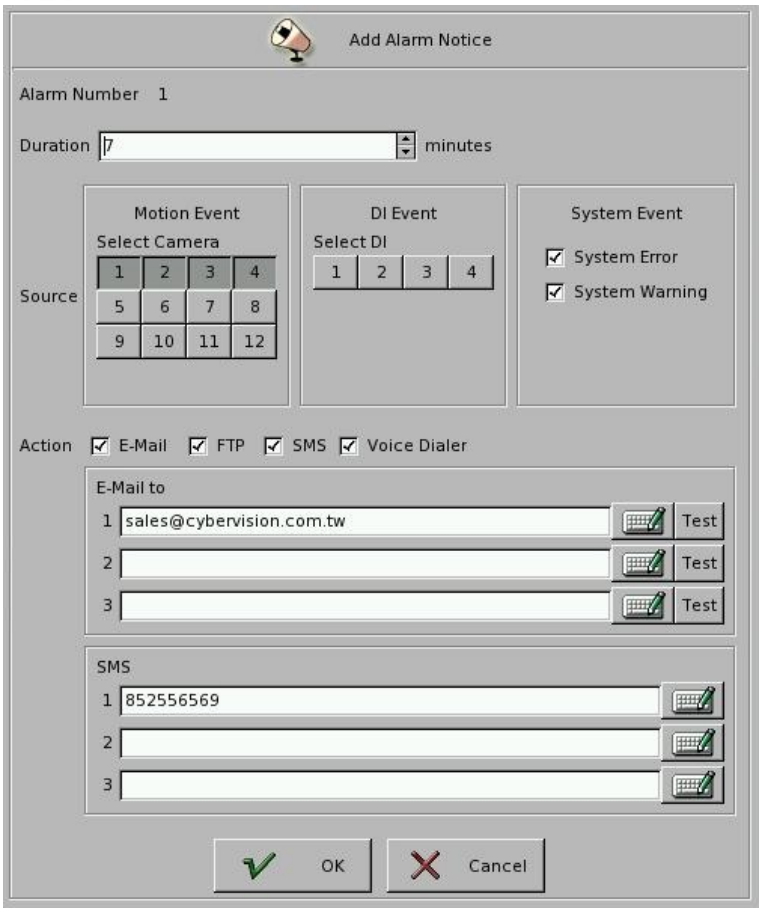
(5) Alarm Duration: The duration time can be from 1 minute to 1440 minutes (1 day). When the “Alarm” happens, the DVR system will send the alarm notice one time during the duration and do it again in next duration until the “Alarm Source” disappears.

(6) Select alarm **Source**. Please refer to the definition of each alarm source.

(7) Action: Click the icon “**E-Mail”** and key in the email addresses that will receive the alarm notice. You can enter three email addresses to be notified for a single alarm.

(8) Click “**OK**” when you have done the setting.

(9) You can add another alarm notice by repeating the step (4) to (8).



[**Alarm to FTP Site]**

(1) Make sure the DVR system connects to Internet.

(2) Key in the IP address of the FTP site.

(3) Enable " Passive mode" if DVR is behind Firewall/NAT and connects to network by PPPoE.

(4) Enter the directory you would like to store the alarm notice (logs and pictures).

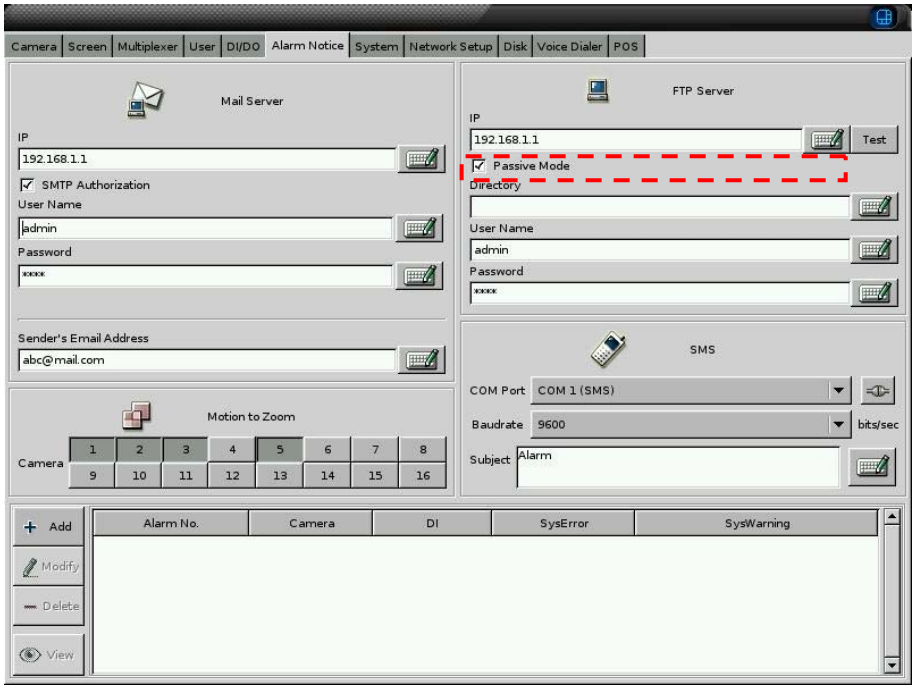
(5) Add Alarm Notice: Click the icon **Add** to see the above figure.

(6) Alarm Duration: The duration time can be from 1 minute to 1440 minutes (1 day). When the "Alarm" happens, the DVR system will send the alarm notice one time during the duration and do it again in next duration until the "Alarm Source" disappears.

(7) Select alarm **Source**. Please refer to the definition of each alarm source.

(8) Action: Click the icon "**FTP"**.

(9) You can add another alarm notice by repeating the step (4) to (8).

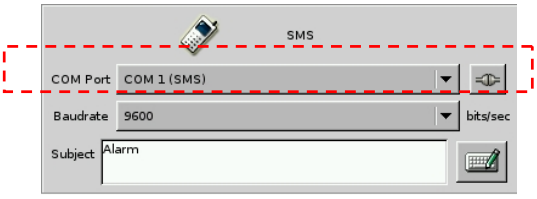


[**Alarm to SMS]**

This function requires an external GSM modem to send messages to mobile phones via SMS (Short Message Service).

(1) Please refer to your GSM modem user manual for the physical connections.

(2) Back to this **Alarm Notice** sub-menu, select the correct COM Port you use to connect the GSM Modem.



(3) Set the **Baud Rate** to be 9600 baud per second. (Note: If you fail to send SMS successfully, you may reduce the baud rate to 4800 or 2400 bps and try again.)

(4) Key in the **Subject** of the alarm message (for example, DVR Alarm).

(5) Add Alarm Notice: Click the icon **Add**.

(6) Alarm Duration: The duration time can be from 1 minute to 1440 minutes (1 day). When the "Alarm" happens, the DVR system will send the alarm notice one time during the duration and do it again in next duration until the "Alarm Source" disappears.

(7) Select alarm **Source**. Please refer to the definition of each alarm source.

(8) **Action**: Click the icon "**SMS"** to enter the mobile phone number. You can enter three mobile phone numbers to be notified for a single alarm.

(9) Click "**OK**" when you have done the setting.

(10) You can add another alarm notice by repeating the step (5) to (9).

[**Motion to Zoom]**

You can click the camera No which you want to enable the " Motion to Zoom" function.

[Alarm to Voice Dialer]

This function requires an external Voice Dialer to send alarm messages to phones. DVR V4.0 and above version only supports **Voyager** Voice Dialer.

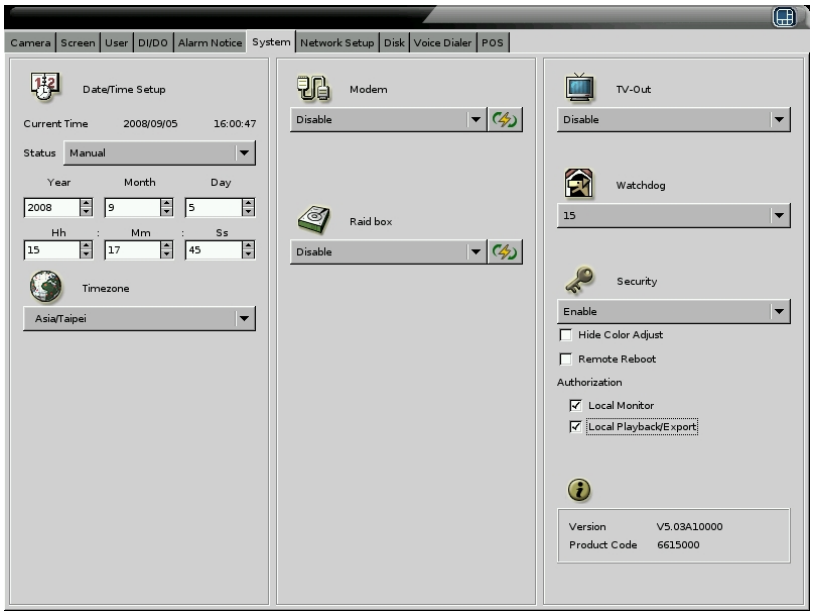
(1) Please refer to **Voyager** Voice Dialer user manual for the physical connections.

(2) Go to the "**Voice Dialer**" setting in the **System** sub-menu to set the phone number that you want to let the DVR auto dial out. You can enter three phone numbers to be notified for a single alarm.

!	**Note** You can send the same alarm notice via email, FTP, and SMS at the same time. You can also modify or delete your previous alarm notice setting. It is very similar to add a new alarm notice.

5-7 System

Click “System” tab for the settings: “Date/Time”, COM Port for Modem and RAID, “TV-Out”, “Watch Dog” and “Security”.



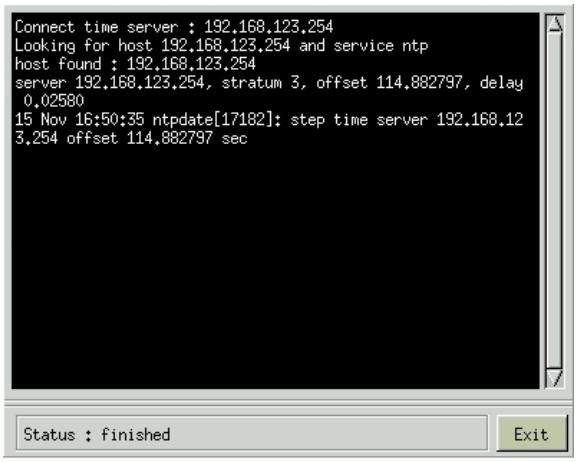
5-7-1 Time Synchronization

There are four kinds of methods to synchronize DVR's time.

Type	Description
1. Manual	Set up time manually
2. Time Server	Synchronize DVR time with Time Server
3. RF Clock	Synchronize DVR time with RF Clock
4. RTC	Synchronize DVR time with Real Time Clock (RTC)

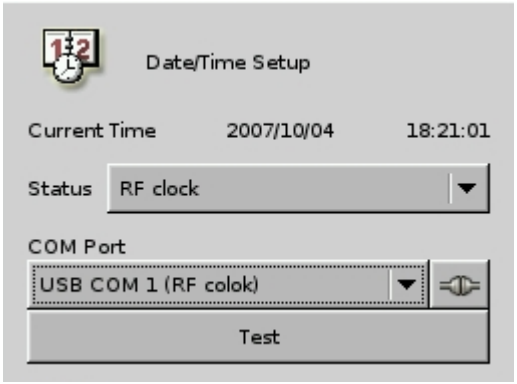
When you select " Time Server" Synchronization, enter the IP address or hostname of the Time Server.

You can test the Time Server function by clicking "Time Server test".


Connect time server : 192.168.123.254
Looking for host 192.168.123.254 and service ntp
host found : 192.168.123.254
server 192.168.123.254, stratum 3, offset 114.882797, delay
0.02580
15 Nov 16:50:35 ntpdate[17182]: step time server 192.168.12
3.254 offset 114.882797 sec
Status : finished
Exit

When you select " RF Clock" Synchronization, you can click " Test" button to do the "RF clock test". Then, the DVR will issue a command to RF clock to get Time information and

display it on the screen. RF Clock should be connected to DVR through RS232 port. Please select the correct COM Port you use to connect RF Clock device.

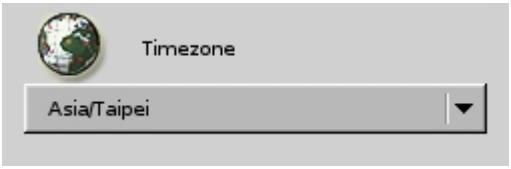


!	**Note** • Configuring Time Synchronization will reboot DVR. • When you synchronize DVR time by RF Clock, the selection of RS232 COM port in System configuration must be the same as the physical connection.

5-7-2 Other Functions

[**Timezone]**

When using DVR first time, you should set up the correct Timezone according to the DVR location. Incorrect Timezone setting will result in incorrect time synchronization via NTP and incorrect Daylight Saving time.

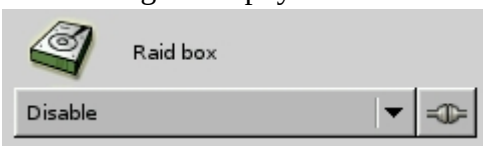


[**Modem]**

This setting is for Modem COM (RS232) port setting. This DVR supports COM1, COM2 and maximum 26 USB COM Ports.

[**RAID Box]**

This DVR integrates with Areca RAID Box and supports RAID alarm notification. RAID alarm notifications are sent from RAID box to DVR via COM Port. Please refer to the physical installation of Areca RAID Box. If your DVR equipped with RAID Box and you want to have the RAID alarm notification, you should enable the RAID box here and select correct COM port according to the physical installation.



!	**Note** ● Beside Areca RAID Box, this DVR also supports Proware and Accusys RAID Box storage function. However, this DVR only integrates Areca' RAID enhanced functions including RAID alarm notification and RAID configuration. ● Beside Storage function, if you also want to have RAID alarm notification and RAID configuration in DVR, you should install Areca RAID box and these two functions work via COM port.

[**TV Out]**

If you connect an external TV out adapter to DVR **VGA out** socket, you can export DVR screen to TV Wall. DVR supports 640*480 User Interface fitting for TV resolution. You can click the icon and choose “Disable”, “NTSC-J”, “NTSC-M”, “PAL-B”, “PAL-D”, “PAL-G”, “PAL-H”, “PAL-I”, “PAL-M”, PAL-N” based on the TV-out function requirement.

.

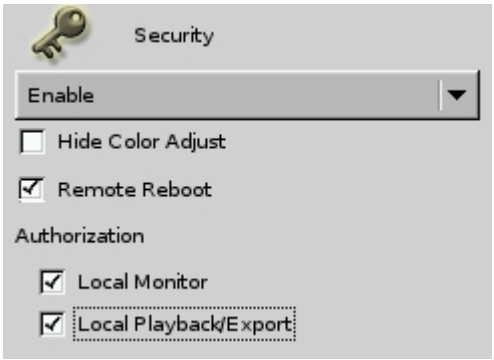
[**Watch Dog]**

Watch Dog is a hardware device to monitor the system status. If the system fails to response, Watch Dog will send a reset signal to the motherboard to reboot the system. To enable Watch Dog function, please select available durations 15,20, 25… or 60 seconds. It requires **the first capture card** to have a physical connection to the reset pin of the motherboard.

[**Security**]

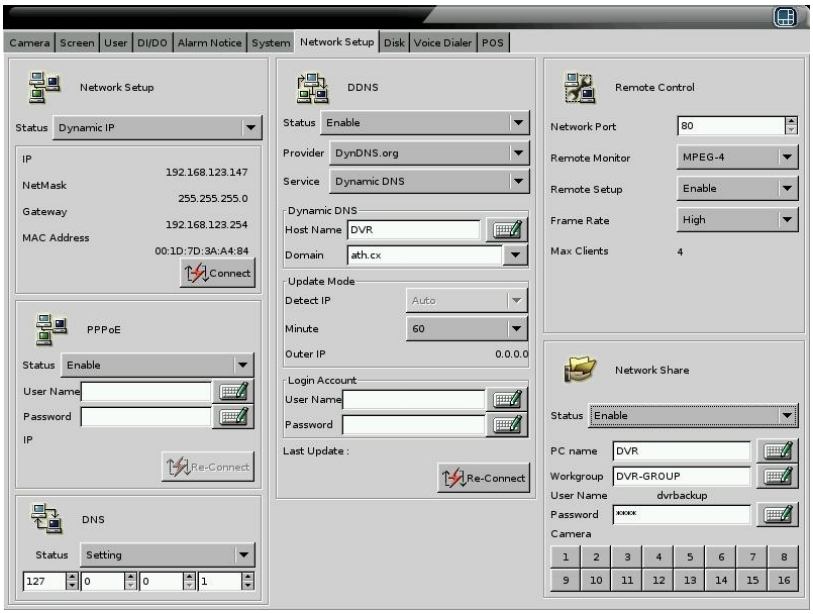
You can “Enable” or “Disable (preset)” the security control setting.

- **Hide Color Adjust:** if enabling this setting, color adjustment functions cannot be executed while zooming-in single channel.
- **Remote Reboot**: if enabling this setting, “Administrator” account can have the right to reboot DVR from remote IE browser. Please refer to “**Chapter 6-7 Remote Reboot DVR**”.
- **Local Monitor**: if enabling this setting, you can set user Monitor permission in “User” configuration menu. Please refer to **Chapter 5-3 User Account Management**.
- **Local Playback/Export:** if enabling this setting, you can set User permission of Playback and export video or log files in “User” configuration menu. Please refer to **Chapter 5-3 User Account Management**.



5-8 Network Setup

Click “Network Setup” tab to set up the network configurations as follows. Enable the “Static IP ” and enter the IP address, NetMask, and Gateway in the fields.



!	**Note** If you use another network port (like port 81) instead of default port 80, when you start the remote viewing, please remember to add the port number followed by the IP address and the “http://” in front of the IP address. For example: http://142.173.62.171:81. If you use port 80, you could just click the IP address directly.

[PPPoE]

This function enables DVR to connect to network by ISP service. When DVR dial out, successfully, your Internet Service Provider (ISP) will provide DVR with a set of IP configurations and will show it on the DVR “ PPPoE” submenu in Network Setup.

Step 1: Enable “**Network Setup**” and “ **PPPoE Setup**”.

Step 2: Key in the “User Name” and “Password” which ISP provides for you to connect to network through modem, ex, ADSL, Cable Modem, etc.

After user finishes the PPPoE configuration, DVR will connect to network automatically under one of the following situations,

#1 Exit DVR setup menu
#2 Click “Reconnection” button
#3 Turn off and then turn on the DVR.

!	**Note** • After enabling PPPoE connection and receiving a IP configuration from ISP, DVR will reconnect to ISP if it detects connection over time. However, this behavior will not be recorded as a log. • It will be recorded as a DVR log when DVR dials out successfully, failed or reconnects. • If it is in connection status. DVR will disconnect the network connection and then reconnect again when you click “ Reconnect” button.

- Receive DNS IP by PPPoE connection:
  DNS IP can be received by PPPoE connection. The following table describes how the DVR can get the DNS IP under different PPPoE Setup and Network Setup.

		Network Setup	
		Static IP	Dynamic IP
PPPoE Setup	Disable	*__Setting__: DNS IP set by manual.	*__Setting__: DNS IP set by manual. *__Auto (DHCP)__: Automatically assign by DHCP.
	Enable	*__Setting__: DNS IP set by manual. *__Auto (PPPoE):__ Automatic assign DNS IP over PPPoE connection.	*__Setting__: DNS IP set by manual. *__Auto (DHCP)__: Automatically assign DNS IP by DHCP. *__Auto (PPPoE)__: Automatically assign DNS IP over PPPoE connection.

!	**Note** If DNS Status is set as “Auto (PPPoE)” and then PPPoE is set as “Disable”, DNS Status will automatically change to “Setting”(DNS IP set by manual).

- FTP sending Alarm by PPPoE connection:
  When you enable PPPoE connection and want to send alarm message to FTP server, DVR you automatically turn on the “ Passive Mode” in DVR FTP server setting (Please refer to the setting of “**Alarm notice to FTP server**” in Chapter 5-6) and show “ **FTP passive**

mode enable" message. Please click " Ok" and DVR will send alarm message to FTP server in "Passive mode". Passive mode is designed to for DVR is behind Firewall or NAT.

[DNS]

An internet service that translates *domain name* into IP address. For example, the domain name *www.example.com* can translate into *198.105.232.4.*

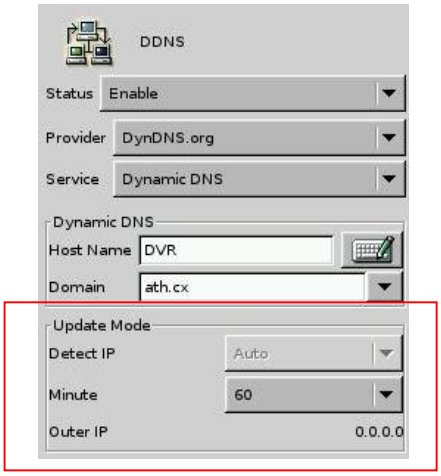
[DDNS]

The Dynamic DNS service allows you to alias a dynamic IP address to a static hostname, allowing your computer to be more easily accessed from various location on the Internet.

We support free DDNS account and customer pay account. To use this service, for free account, you must apply an account from several free Web servers such as *http://DynDNS.org*

- DDNS Update

This System supports " Automatically" or " Manually" update DDNS IP address to avoid getting incorrect IP address. If System uses incorrect IP address will result in failing to connect to System from remote site (IE or CMS).



(1) "**Auto**" Mode: System will automatically update DDNS IP address. You can select update frequency and the unit is "Minute". For example, Update it per 10 minute or 20 minute.

(2) "**Manual**" Mode: Manually update DDNS IP address.

!	**Note** It is possible that the function of auto detecting Firewall/NAT IP address will be affected by the ISP's transparent proxy so that DDNS provider detects the wrong IP. Please ask your local ISP to solve this issue.

[**DHCP**]

A protocol for assigning *dynamic IP address* to devices on a network. With dynamic addressing, a device can have a different IP address every time it connects to the network.

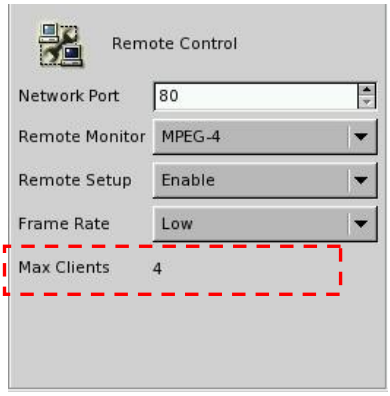
[**Remote Control**]

This DVR system provides powerful remote control functions including Remote Monitor, Remote Setup, Remote Playback and Remote Backup. In the DVR site, you need to define the remote authority and set up the remote configuration in advance for the remote user to access DVR.

- Remote Monitor:

  DVR provides JPEG and MPEG4 video format for remote monitor. If you select JPEG, DVR will encode one JPEG picture per channel per second for remote access. The remote PC needs to install Java Virtual Machine. If you select MPEG 4, DVR will encode about 30(Low), 60(Medium) or 120(High) pictures per system per second for remote access. The remote PC needs to install "MPEG4 player", which can be download from the DVR.
- Remote Setup: Enable user to change the DVR settings from remote side.
- Frame Rate: This function defines the DVR can send how many number of frames per second to remote side for monitoring. There are three options: Low (30fps), Medium (60fps) and High (120fps). If "**Remote Monitor**" is disabled or selected as JPEG, " Frame Rate" button will be hidden.
- Max. Client Number: 4 or 16 clients. This DVR system opens 4 or 16 clients to access DVR at the same time from remote side. The number of remote clients DVR provides depends on the DVR channel and RAM size. The following table describes the DRAM and DVR channel matrix for remote monitoring client numbers,

RAM size / Channel#	256MB	512MB	1GB
4	8	16	16
8		16	16
16		4	16



[**Network Share**]

This function allows you to find the DVR in the network and copy the recorded files to your PC remotely.

1 Enable ”Network Share Status”.

2 Give a name for this DVR for identification in the network.

3 Enter the Workgroup.

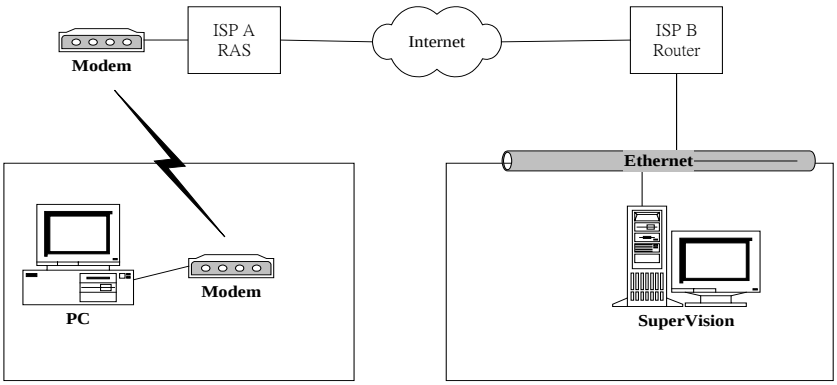
4 Give a password for remote access of the files.

5 Click on the camera numbers to be shared in the network.

Please refer to chapter 6 for remote operation.

!	**Note** Network Share only can be used in LAN environment.

5-8-1 Remote Connection via Internet by a modem



[DVR site]

Before starting the remote monitoring function, users need to apply for a fixed line (leased line or ADSL), and get the IP address from the ISP (Internet Service Provider). The framework to perform this feature is depicted in the above figure. Moreover, please follow the procedure described in section 5-8 "Network Setup" to setup the network configuration. Remember to check that the fixed line (usually RJ45 cable) has connected to the DVR system correctly.

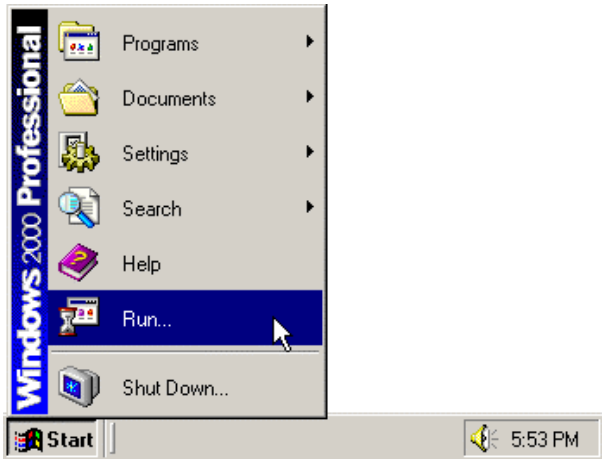
[Remote user site]

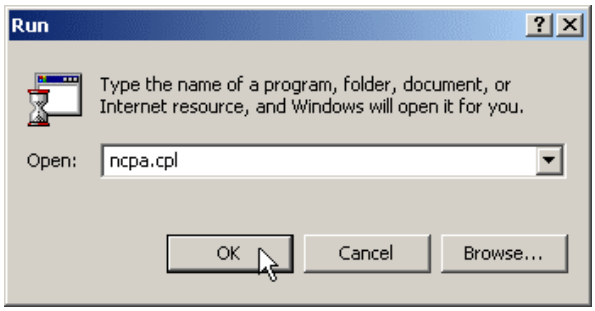
Please refer the following procedure (which is extracted from documents provided by MicroSoft^{M} Inc. to finish the setting of user site where a window 2000 system is installed.

- **Windows 2000 Dial-Up Guide**

  ✓ **Step 1**

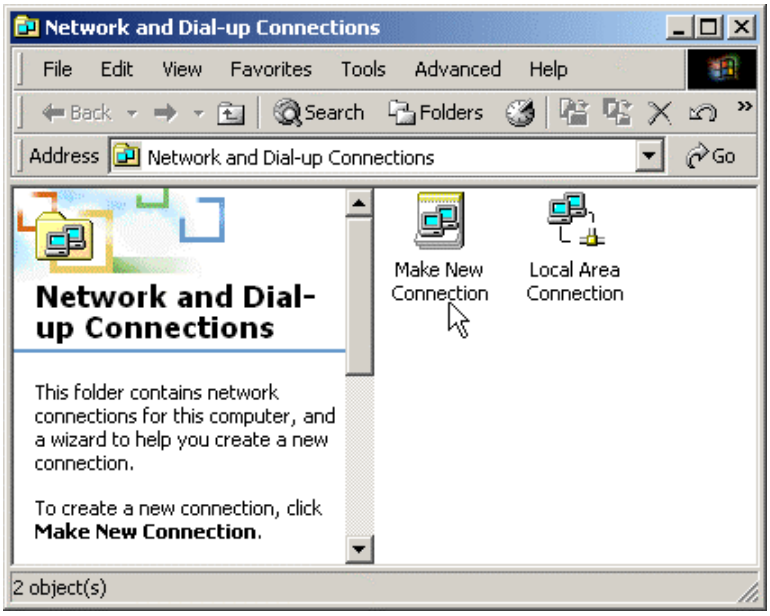
  Click **Start** on your Windows taskbar, select **Run**. Type **ncpa.cpl** in the Open field then click **OK** to begin.





✓ **Step 2**

In the Network and Dial-Up Connections window, open **Make New Connection** to start the Network Connection Wizard.


Network and Dial-up Connections
File Edit View Favorites Tools Advanced Help
Back Search Folders
Address Network and Dial-up Connections
Go
Make New Connection
Local Area Connection
Network and Dial-up Connections
This folder contains network connections for this computer, and a wizard to help you create a new connection.
To create a new connection, click Make New Connection.
2 object(s)

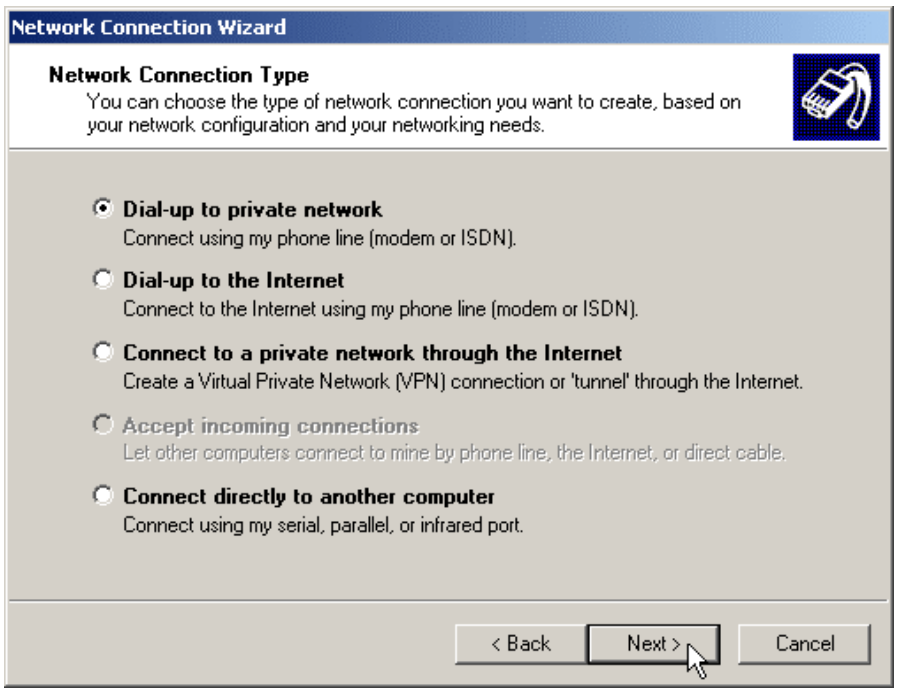
✓ **Step 3**

In the Welcome to the Network Connection Wizard window, click **Next**.

Network Connection Wizard
Welcome to the Network Connection Wizard
Using this wizard you can create a connection to other computers and networks, enabling applications such as e-mail, Web browsing, file sharing, and printing.
To continue, click Next.
< Back
Next >
Cancel

✓ **Step 4**

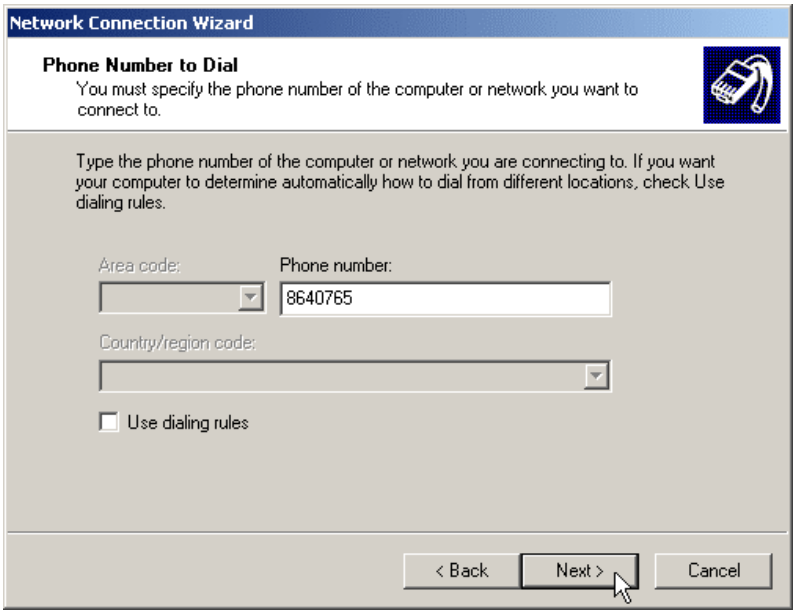
The New Connection Type window will have several selections. Choose **Dial-Up to private network**, and then click **Next**.


Network Connection Wizard
Network Connection Type
You can choose the type of network connection you want to create, based on your network configuration and your networking needs.
Dial-up to private network
Connect using my phone line (modem or ISDN).
Dial-up to the Internet
Connect to the Internet using my phone line (modem or ISDN).
Connect to a private network through the Internet
Create a Virtual Private Network (VPN) connection or 'tunnel' through the Internet.
Accept incoming connections
Let other computers connect to mine by phone line, the Internet, or direct cable.
Connect directly to another computer
Connect using my serial, parallel, or infrared port.
< Back
Next >
Cancel

✓ **Step 5**

For the Phone Number to Dial window, first choose a local service number from the following Web sites...

Please type in the number you have chosen and click **Next** to continue.


Network Connection Wizard
Phone Number to Dial
You must specify the phone number of the computer or network you want to connect to.
Type the phone number of the computer or network you are connecting to. If you want your computer to determine automatically how to dial from different locations, check Use dialing rules.
Area code:
Phone number:
8640765
Country/region code:
Use dialing rules
< Back
Next >
Cancel

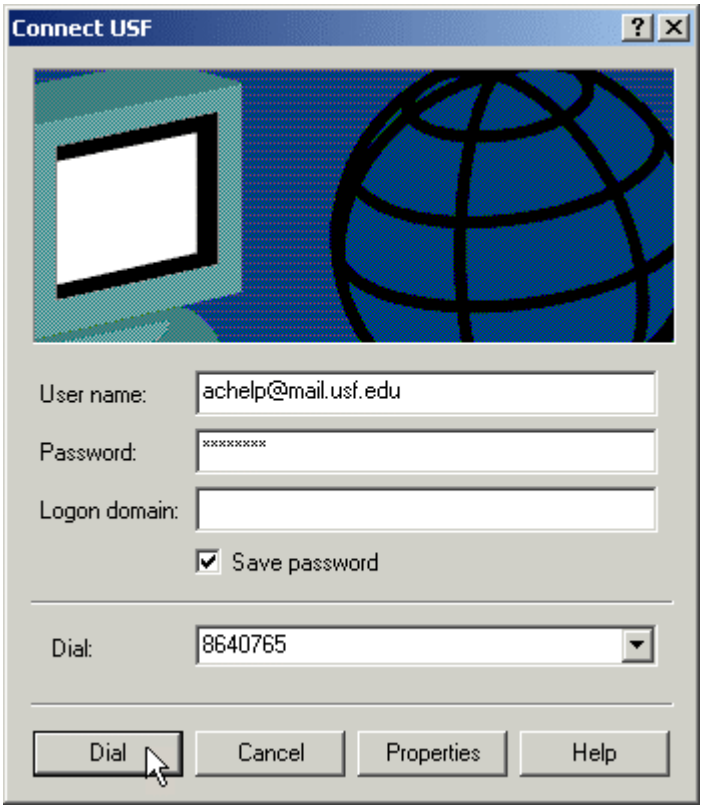
✓ **Step 6**

In the Completing the Network Connection Wizard window, check the box labeled **Add a shortcut to my desktop**, then click **Finish** to close the wizard, and therefore, start the Connect window.

Network Connection Wizard
Completing the Network Connection Wizard
Type the name you want to use for this connection:
DVR
To create this connection and save it in the Network and Dial-up Connections folder, click Finish.
To edit this connection in the Network and Dial-up Connections folder, select it, click File, and then click Properties.
Add a shortcut to my desktop
< Back
Finish
Cancel

✓ **Step 7**

Before dialing, the Connect window has several text fields to fill. Your **User name** will be your entire official USF e-mail address and the **Password** will be the password to that e-mail address, respectively. In addition, you may check the **Save password** box and/or customize the phone number (to disable call-waiting or other features) if you prefer.



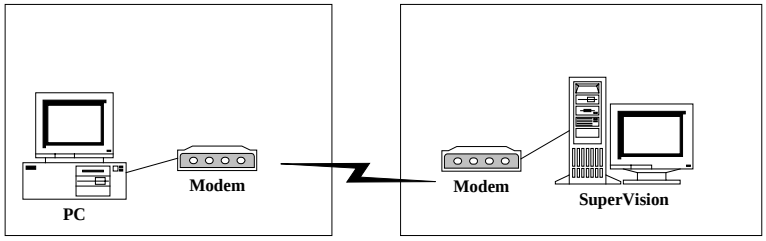
✓ **Step 8**

Your connection setup is now complete! If you have not paid for USFBasic Dial-up yet, please do so at the **iConnect Marketplace**. Qualified faculty must register through the **Faculty Modem Pool Eligibility page**. Both Web addresses are respectively listed below for your convenience.

After successful connect, the user’ s PC will be assigned an IP Address from the RAS (Remote Access Server) of ISP.

Users can open the Web Browser now, enter DVR IP Address (Refer to 6-2), and wait for several seconds (time for loading program) to start remote monitoring function.

5-8-2 Remote Connection when DVR is connected to the Internet by a modem



Similar to dialing up to ISP (Internet Service Provider) for connecting to internet described in the previous section, direct dial-in access is another way to let users remotely connecting to DVR products which is equipped with a modem device. The above figure depicts the framework of this feature.

Additionally, the only slightly difference between these two methods is that direct dial-in access uses DVR products to replace the function provided by ISP RAS (Remote Access Server) to perform the procedure of connection.

[DVR site]

From the DVR site, please follow the steps below to finish the setting.

1. Login the setup page of the DVR system as an administrator, and then setup the network functions you required on “Network Setup” page, for example, enable remote monitoring, enable remote setup, etc.
2. Prepare a user account that has the permission of dial-in access. Or the default user “admin” has the permission already. Later on, from the remote site, you need this account to login the DVR system once the dial-in access is finished.
3. Check the BIOS setting of motherboard to make sure that the setting of onboard Serial Port 1” (Port A) is enabled (or Auto or 3F8).
4. Connect the modem to the COM1 interface of the DVR system.
5. Prepare a regular telephone line (PSTN), and then correctly connect the modem to the telephone line.
6. Remember to power on the modem and check if the status of modem is correct before power on the DVR system.

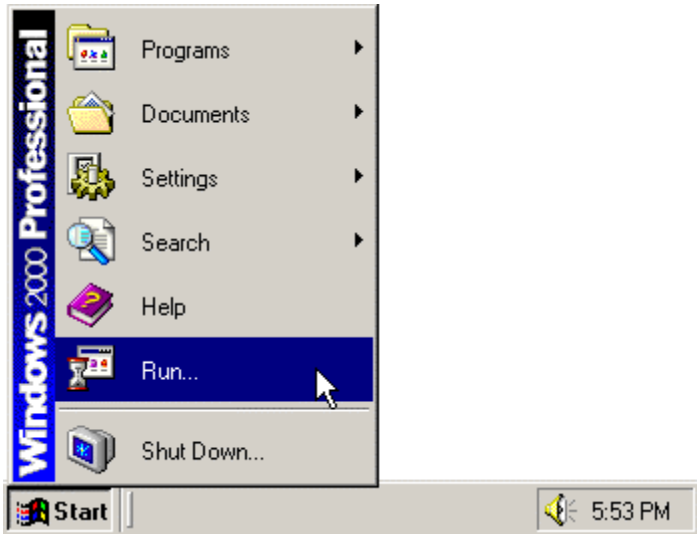
[Remote user site]

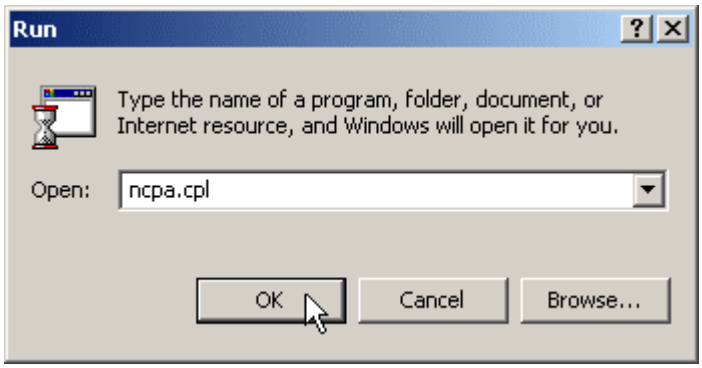
Please refer the following procedure, which is extracted from documents provided by MicroSoft[M] Inc. to finish the setting of user site where a window 2000 system is installed.

- **Windows 2000 Dial-Up Guide**

✓ **Step 1**

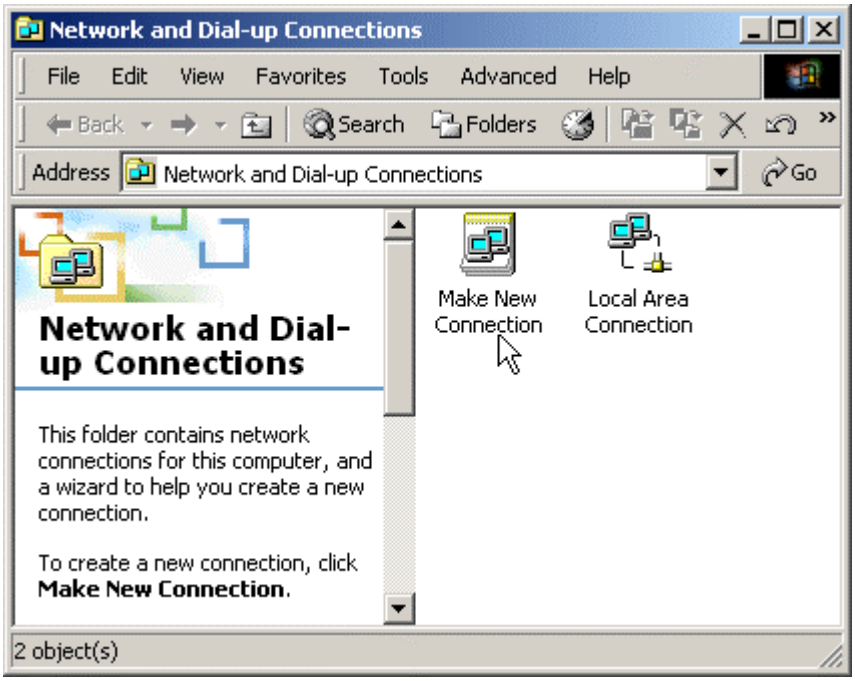
Click **Start** on your Windows taskbar, select **Run**. Type **ncpa.cpl** in the Open field then click **OK** to begin.





✓ **Step 2**

In the Network and Dial-Up Connections window, open **Make New Connection** to start the Network Connection Wizard.


Network and Dial-up Connections
File Edit View Favorites Tools Advanced Help
Back Search Folders
Address Network and Dial-up Connections
Go
Make New Connection
Local Area Connection
Network and Dial-up Connections
This folder contains network connections for this computer, and a wizard to help you create a new connection.
To create a new connection, click Make New Connection.
2 object(s)

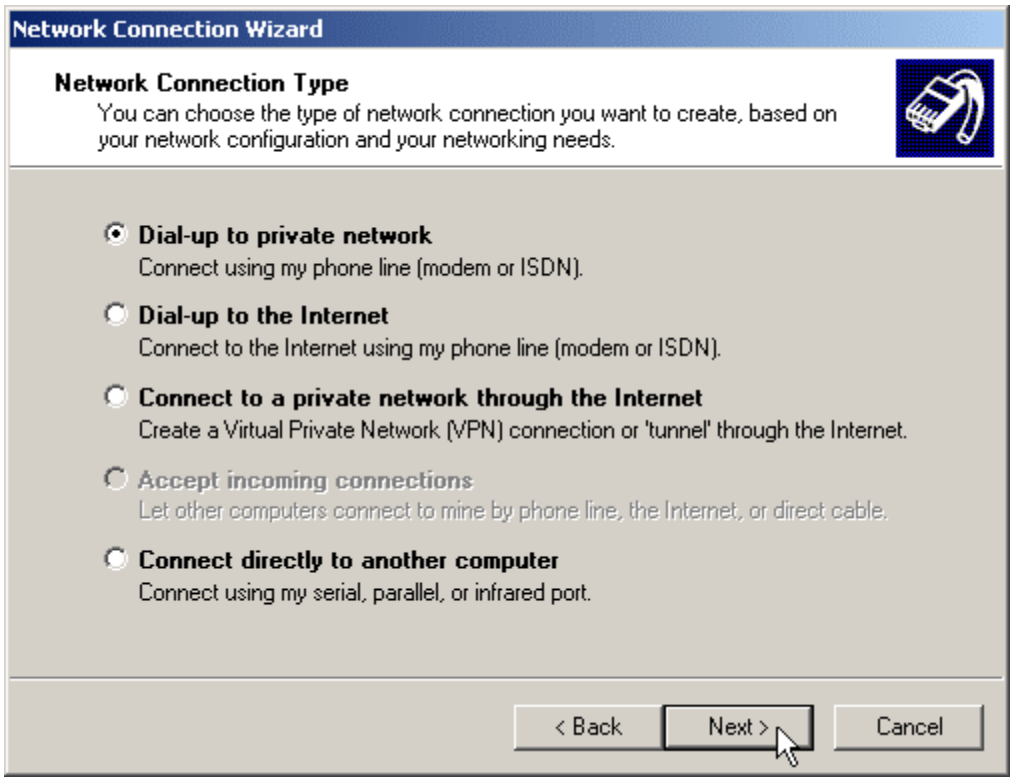
✓ **Step 3**

In the Welcome to the Network Connection Wizard window, click **Next**.

Network Connection Wizard
Welcome to the Network Connection Wizard
Using this wizard you can create a connection to other computers and networks, enabling applications such as e-mail, Web browsing, file sharing, and printing.
To continue, click Next.
< Back
Next >
Cancel

✓ **Step 4**

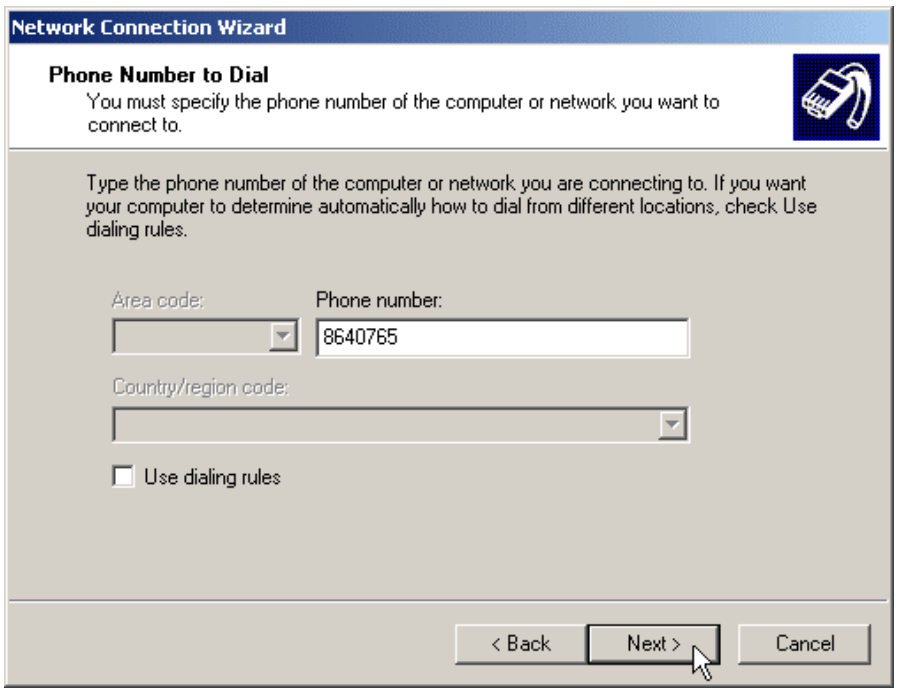
The New Connection Type window will have several selections. Choose **Dial-Up to private network**, and then click **Next**.


Network Connection Wizard
Network Connection Type
You can choose the type of network connection you want to create, based on your network configuration and your networking needs.
Dial-up to private network
Connect using my phone line (modem or ISDN).
Dial-up to the Internet
Connect to the Internet using my phone line (modem or ISDN).
Connect to a private network through the Internet
Create a Virtual Private Network (VPN) connection or 'tunnel' through the Internet.
Accept incoming connections
Let other computers connect to mine by phone line, the Internet, or direct cable.
Connect directly to another computer
Connect using my serial, parallel, or infrared port.
< Back
Next >
Cancel

✓ **Step 5**

For the Phone Number to Dial window, first choose a local service number from the following Web sites...

Please type in the number you have chosen and click **Next** to continue.


Network Connection Wizard
Phone Number to Dial
You must specify the phone number of the computer or network you want to connect to.
Type the phone number of the computer or network you are connecting to. If you want your computer to determine automatically how to dial from different locations, check Use dialing rules.
Area code:
Phone number:
8640765
Country/region code:
Use dialing rules
< Back
Next >
Cancel

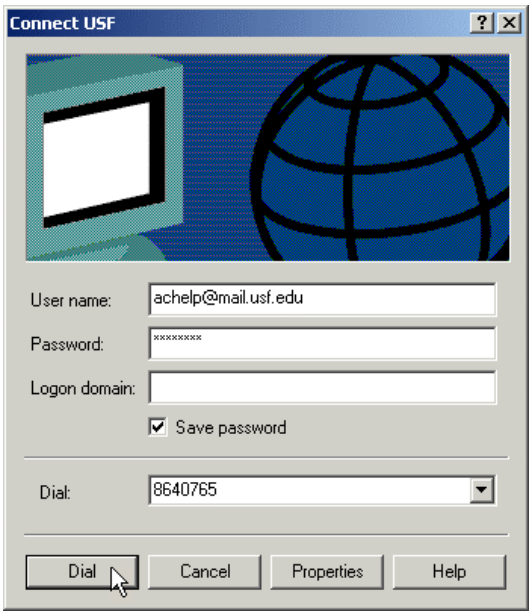
✓ **Step 6**

In the Completing the Network Connection Wizard window, check the box labeled **Add a shortcut to my desktop**, then click **Finish** to close the wizard, and therefore, start the Connect window.

Network Connection Wizard
Completing the Network Connection Wizard
Type the name you want to use for this connection:
DVR
To create this connection and save it in the Network and Dial-up Connections folder, click Finish.
To edit this connection in the Network and Dial-up Connections folder, select it, click File, and then click Properties.
Add a shortcut to my desktop
< Back
Finish
Cancel

✓ **Step 7**

Before dialing, the Connect window has several text fields to fill. Your **User name** will be your entire official USF e-mail address and the **Password** will be the password to that e-mail address, respectively. In addition, you may check the **Save password** box and/or customize the phone number (to disable call-waiting or other features) if you prefer.



✓ **Step 8**

Your connection setup is now complete! If you have not paid for USFBasic Dial-up yet, please do so at the **iConnect Marketplace**. Qualified faculty must register through the **Faculty Modem Pool Eligibility page**. Both Web addresses are respectively listed below for your convenience.

Users can open the Web Browser now, enter DVR IP address (see Note), and wait for several seconds (time for loading program) to start remote monitoring function.

!	**Note** After successful connecting to the modem, the PC will be assigned an IP Address, which is the successor number of DVR's IP Address. For example, if the IP address of DVR is 140.113.17.154, then 140.113.17.155 will be assigned to the PC. Therefore, you need to use this IP address in IE browser in order to connect to the DVR system.

5-9 Disk

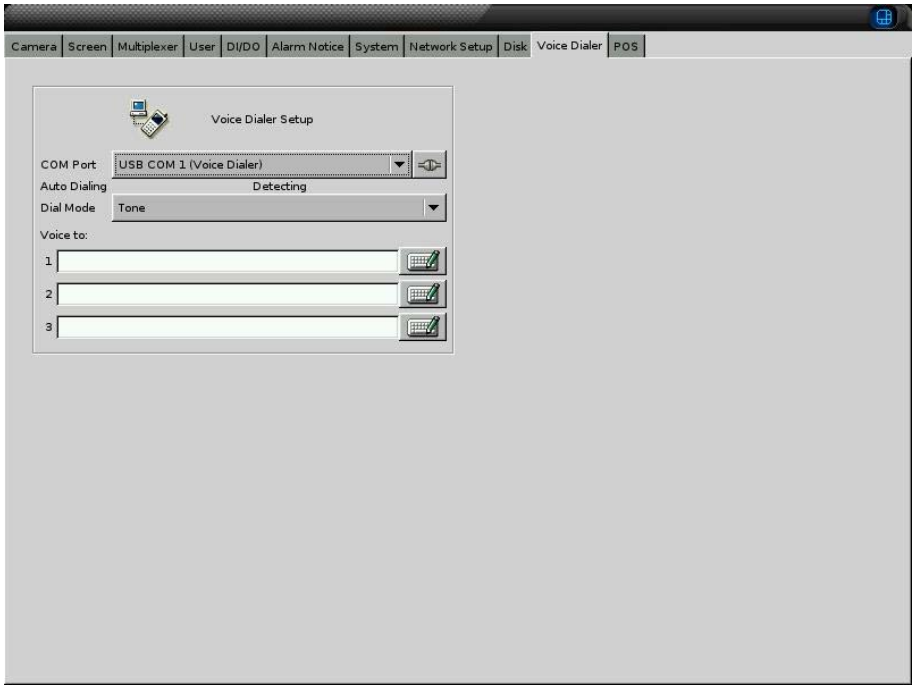
This function allows you to self-define HDD recycle duration and check disk status easily and precisely through pressing the S.M.A.R.T.

Camera
Screen
Multiplexer
User
DI/DO
Alarm Notice
System
Network Setup
Disk
Voice Dialer
POS
Disk Info
Disk
sda
Total size 149974 MB
Free size 4562 MB
cam record cam 1, cam 2, cam 3, cam 4, cam 5, cam 6, cam 7, cam 8
cam 9, cam 10, cam 11, cam 12, cam 13, cam 14, cam 15, cam 16
S.M.A.R.T
Recycle Disk
Video recycled durateion 0 days
NOTICE
1 The video recycle duration is between 0 ~ 365 days.
2 When the duration is set to 0, it means DVR will not automatically recycle the video data except HDD is full.
3 The default minimun HDD is 2.5GB.
4 The function of recycle disk is to set the recycle duration of video files, it doesn't include to recycle the log files.
5 Even the video files are recycled, the DVR will keep the log file with last 2 weeks.

!	**Note** • The video recycle duration is between 0 to 365 days. • When the duration is set to “0”, DVR will not automatically recycle the video data except HDD is full. • The function of Recycle Disk is to set the recycle duration of the video file and it doesn’t recycle log file. • Even if the video files are recycled, DVR will keep the log file for the last two weeks.

5-10 Voice Dialer

Click on the icon “Voice Dialer” to set up the dial out phone number of “Voice Dialer” to let the Voice Dialer send alarm message when Alarm occurs. You can enter three phone numbers to be notified for a single alarm at the same time. Please refer Chapter 5-6 about the setting of Alarm Notice.



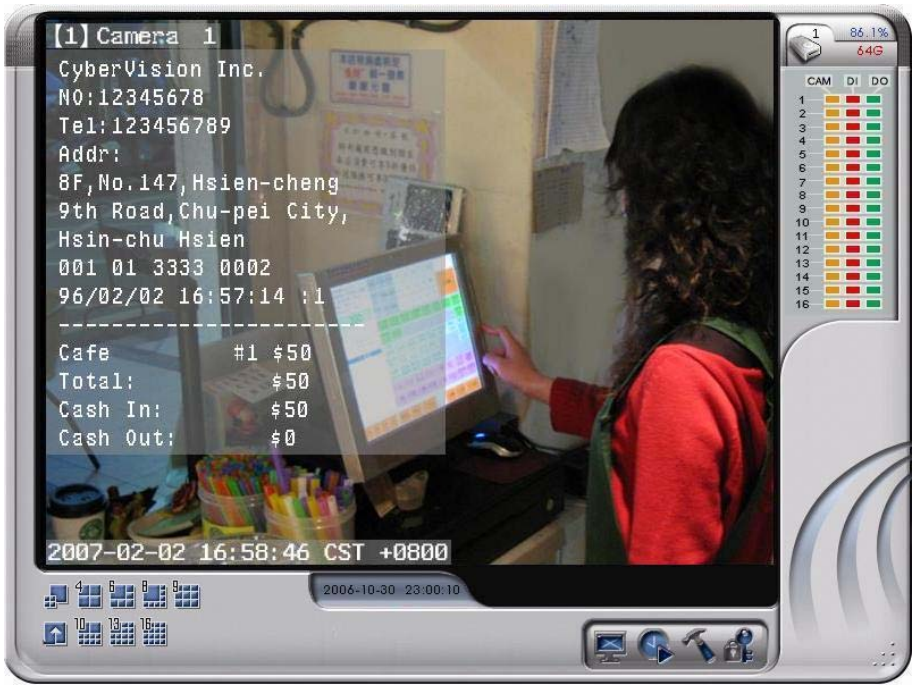
!	**Note** • This DVR system only supports **Voyager** Voice Dialer device. • Set the correct Com Port used to connect the Voice Dialer.

5-11 POS

From DVR V5.0 version, it successfully integrating with POS system can allow the recording of all transactions for later review for such thefts as sweethearting, substitute scanning, no rings, short changing, short rings, and pilfering. It can largely be applied to convenience store, grocery, gas station and etc.

V5.01 for POS application integrates with EPSON printer protocol and 3688 printer protocol in it. Generally, if your POS system supports EPSON printer or 3688 printer protocol, DVR V5.01 can work with it. Besides, V5.01 new supports Maitre'D POS system connected to DVR via Ethernet interface.

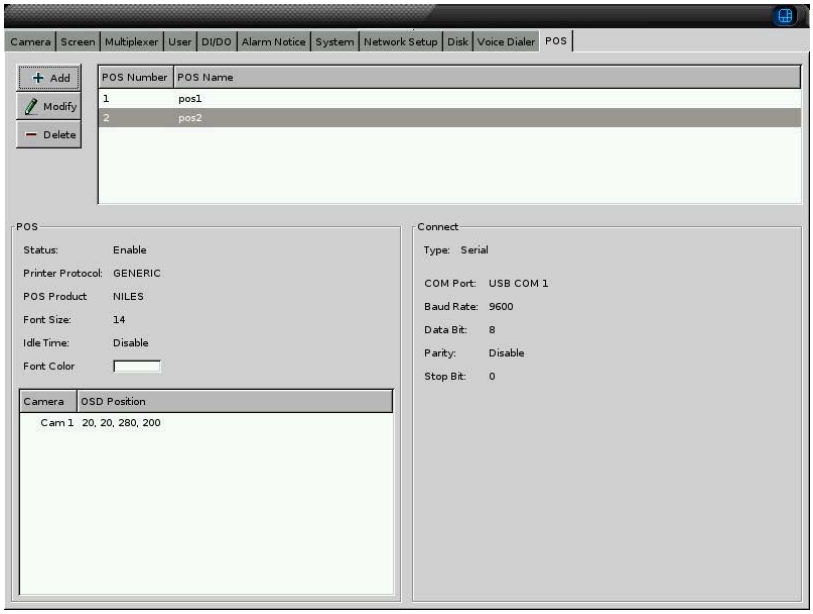
Through RS232/RS485 and Ethernet connection interface, DVR can receive the transaction data from POS. You need the extra connection accessories according to your connection interface and POS connection quantity and distance.



5-11-1 POS Setting

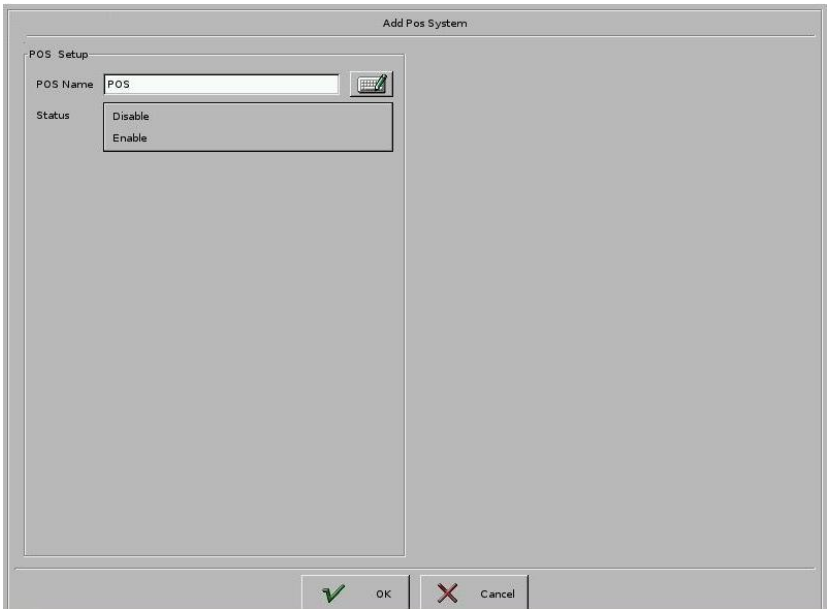
- **Step 1 Click “ Add” to start to add POS device.**

If you finish POS device setup, it will be listed in the right window and the detail POS setup content will be described in below column. You can click “ **Modify**” or “ **Delete**” to modify POS setup content or delete POS device.

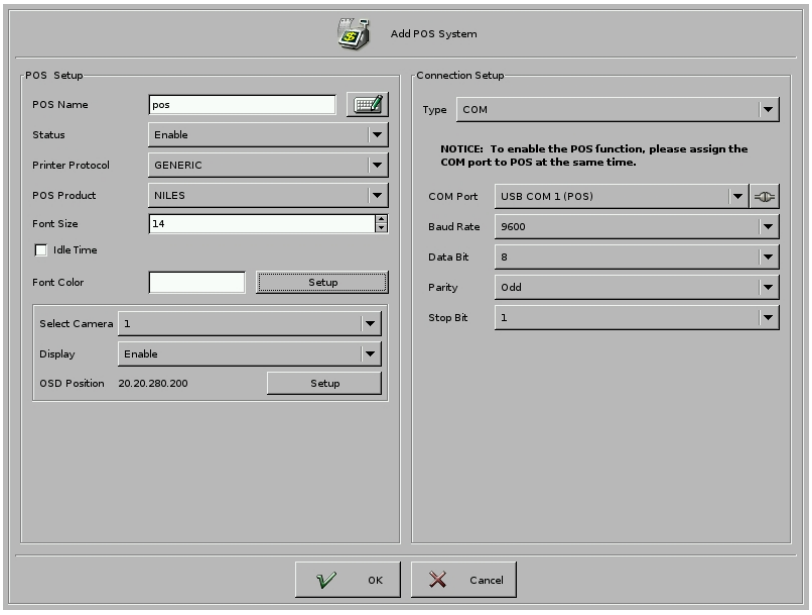


- **Step 2 Enter the POS Name and “ Enable” the POS device.**

Currently, DVR just supports English POS name. If you don’t enter any character or enter repeated POS name, DVR will pop up message to remind you.



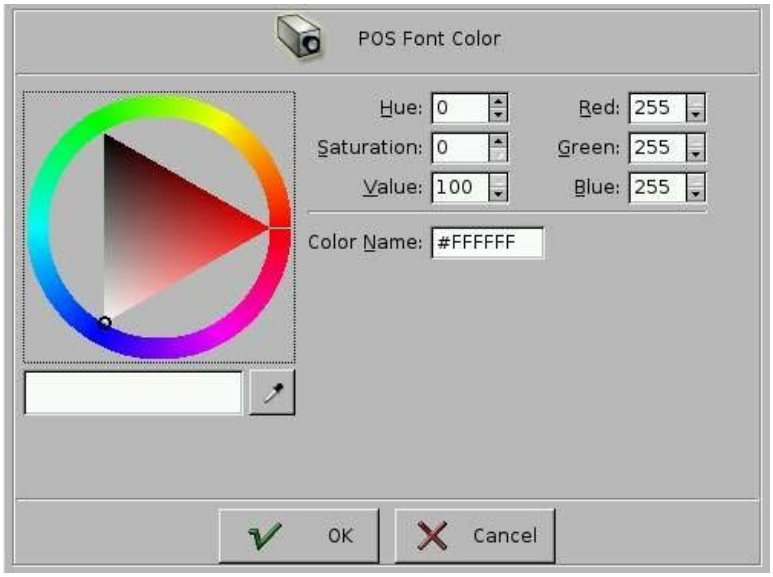
- **Step 3: Set up POS configuration**



- Status:
  " Enable" or " Disable" POS device.
- Printer Protocol
  In V5.01 version, DVR supports EPSON and Generic (3688) printer protocol and Maitre'D POS solution. Please select the correct printer protocol your POS system supports.
- POS Product
  In V5.01 version, DVR has integrated with NILES, EMIS, KANGS and Maitre'D POS system. Please select the correct POS system. If your POS system is not in the list, please contact your supplier to ask the technical help.
- Font Size:
  Please select the font size of POS message you want to display in camera channel. The range of font size is from 12 to 20.
- Idles Time:
  The time at which POS message will stay in the channel if no further POS message is

input.

- Font Color: Set the font color. Please drag the triangle to the color you want.



- Select Camera:

  Select the cameras POS message will show on.

- Display:

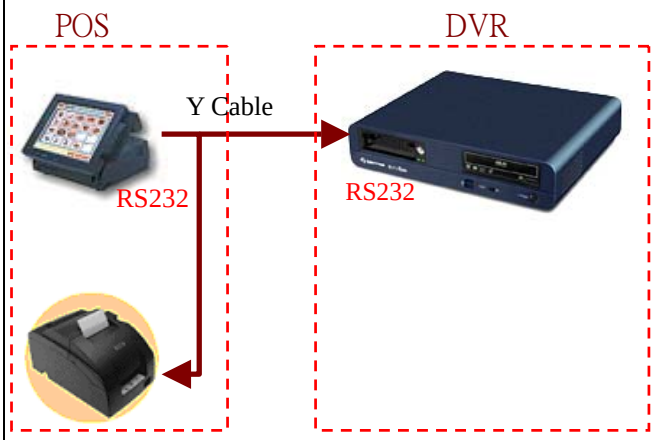
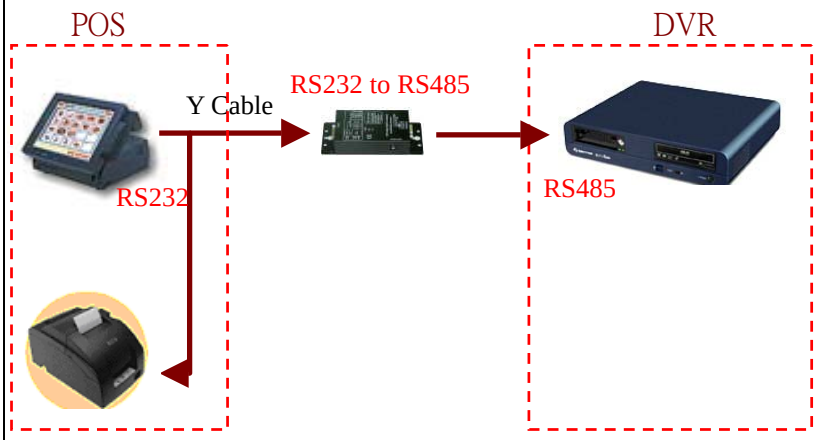
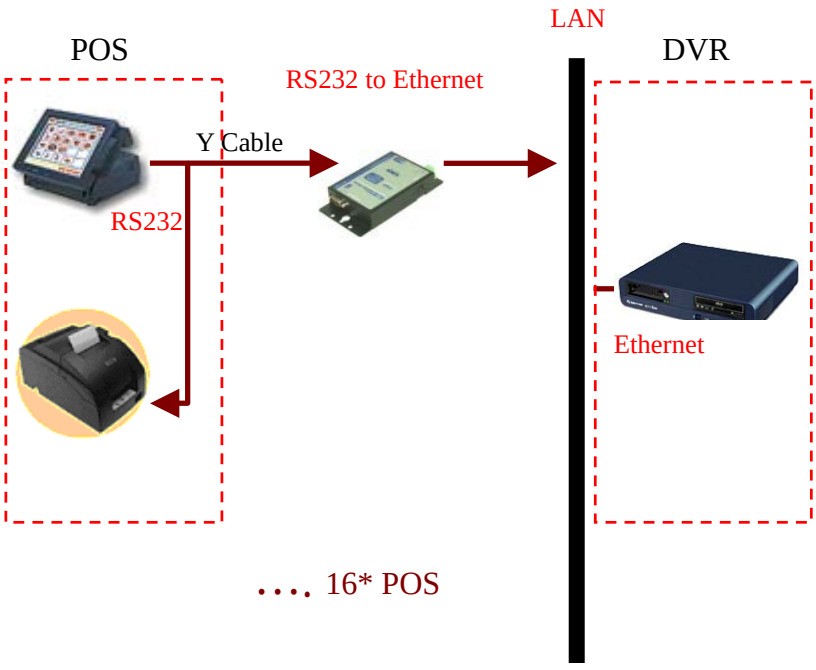
  Enable the POS message showing on the camera.

- OSD Position:

  Click " **Setup**" to open OSD setup menu as below picture. You can drag mouse to define location and area of POS message that is printed on screen.

- Connection Type:

  *__Type:__ There are two options to connect POS to DVR. One is directly through RS232 serial (COM) port. The other one is Ethernet. You can ask your supplier to provide these accessories for the connection. Please see the below connection illustration.

Connection Type	Illustration	Remarks
RS232 COM Port		*One POS connection *The distance between POS and DVR is within 1.8m
RS232 to RS485 COM Port		*One POS connection *The distance between POS and DVR is over 1.8m
Ethernet		*Multiple POS Connections * The distance between POS and DVR is Unlimited.

DVR connection type is RS232/RS485 COM Port:

*__COM Port__: Please select the correct COM Port you use to connect the POS to DVR.

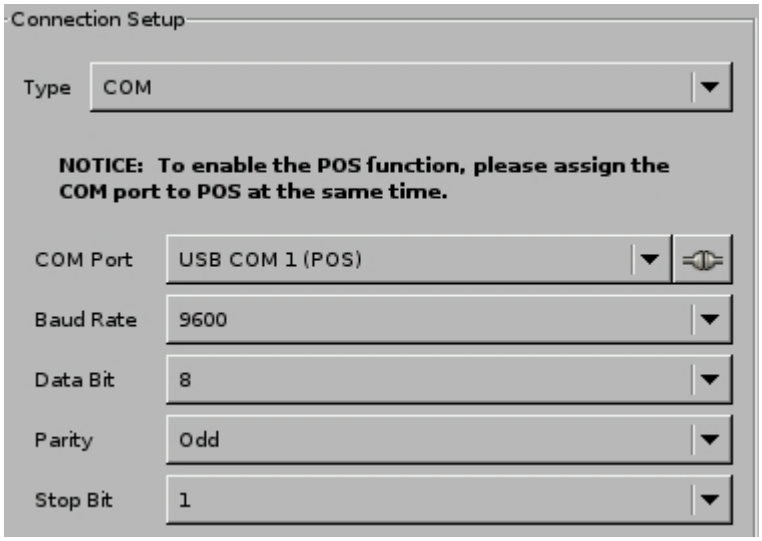
*__Baud Rate__: POS Data transmission speed through COM Port to DVR. Please set up the Baud according to your POS device.

*__Start Bit__: Please set up the Start Bit according to the COM port transmission spec of your POS device.

*__Data Bit__: Set up the data bit according to the COM port transmission spec of your POS device.

*__Parity__: Set up the Parity according to the COM port transmission spec of your POS device.

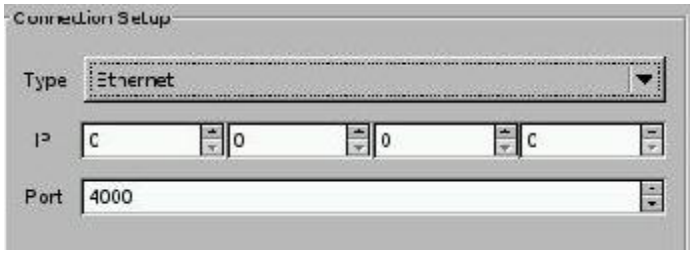
*__Stop Bit__: Set up the Stop bit according to the COM port transmission spec of your POS device.



DVR connection type is Ethernet:

*__IP:__ Enter the IP address of the RS232 to Ethernet converter.

*__Port:__ Set up the corresponding port of RS232 to Ethernet converter.

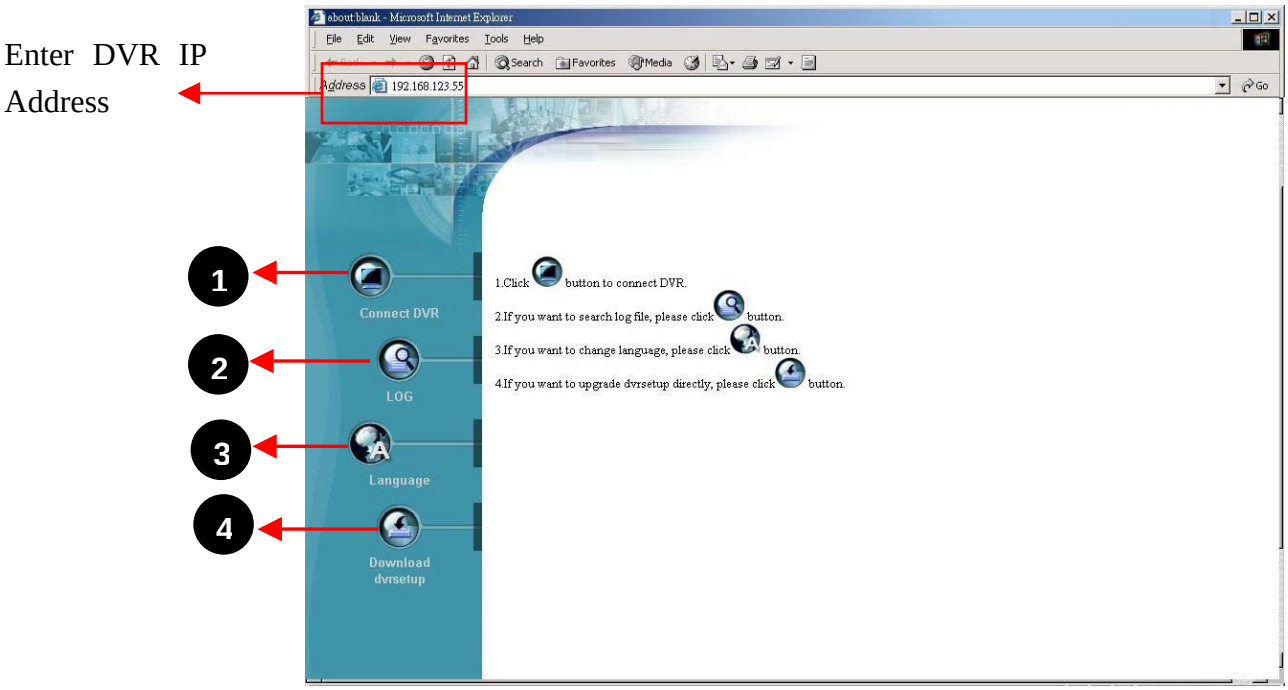


Now, POS configuration is finished and DVR can start to receive POS transaction message.

!	**Note** V5.01 new supports Maitre'D POS system. If you select Maitre'D POS system, please follow below setting. **1.** Please select Maitre'D in Printer protocol and POS product. **2.** Because Maitre'D POS system only supports Ethernet connection, please select "Ethernet" in connection type. **3.** The default port number used to connect to Maitre'D POS is 5111.

6.Remote Operation

This DVR System allows you to monitor and control the system via network. Open an IE browser on the remote PC and enter the IP address of the DVR to see the screen below:



Items	Function	Description
1	Connect to DVR	Connect to DVR and start to connect DVR from remote site.
2	Log	Remote Log Query
3	Language	Support four-language operation including English Traditional Chinese, French and Japanese.
4	Download dvrsetup	Download dvrsetup when first time connecting DVR from remote site or upgrade dvrsetup when DVR with new version upgraded.

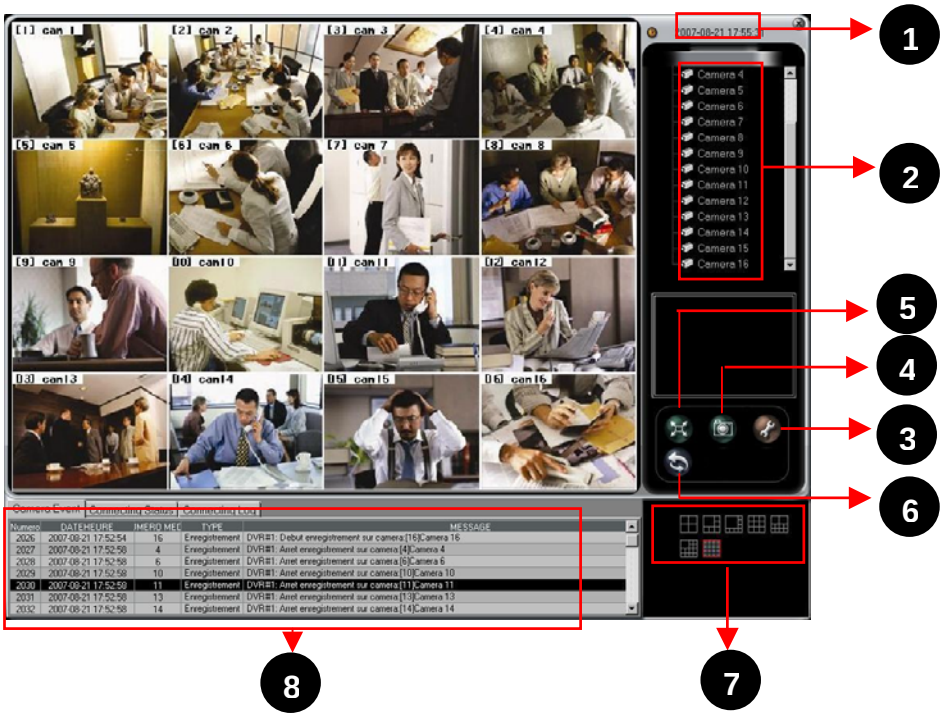
6-1 Download DVR Client (dvrsetup)

The remote PC needs to install the DVR client when the first time you want to connect to DVR from remote IE. Click the “Download” icon and follow the instructions to install the DVR Client (dvrsetup program). If DVR with new version upgraded, you should also upgrade dvrsetup.

6-2 Remote Operation

After you finish the installation of DVR client, you can start to connect DVR from remote IE. Click the icon of “Connect DVR” and the dialog box below will prompt to remind you to enter the user name and password. Please refer to “Chapter 5-4 User Account Management” to set the authority for remote operation.

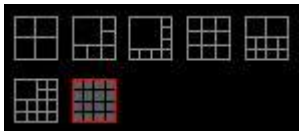
If you pass the remote authorization, you can start to use remote client as screen picture below,



Items	Function	Description
1	Date/Time	Show the DVR date and time
2	Camera list	Camera display list
3	Setup	Set the network transmission preference and remote DVR setup
4	Snapshot	Catch display image and save to the storage device
5	Full screen	Display in full screen
6	Playback	Remote playback
7	Display Mode	Select display division
8	Log	DVR Log List

6-2-1 Remote Display Mode

Click on the corresponding icons on the bottom of the screen to view difference display mode. There are 4-, 6-, 8-, 9-, 10-, 13- and 16 split modes.

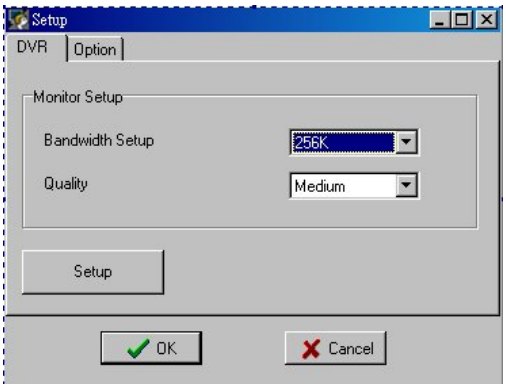


6-2-2 Remote Setup

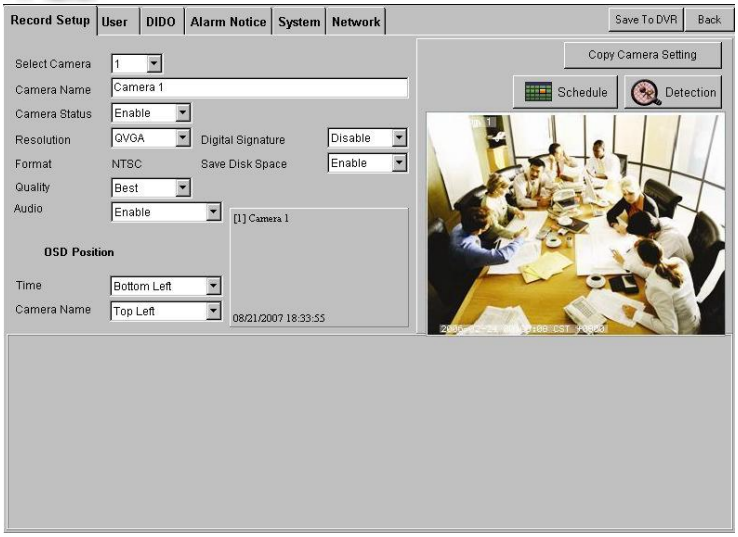
Remote configuration provides three major functions as below

- Select the suitable network setting based on the actual environment. You can adjust network speed based on real speed status, just select " 56K", "128K", "256K", "384K", "512K", "768K", "1M", "1.5M", "2M", "4M", "8M" ,"10M" or unlimited for adjustment on the ComboBox. If you use company's or school's LAN, we suggest you can choose " 10M" for quick display. For ADSL, Cable Modem, and Dial-up service, please adjust the setup based on real ISP speed.

  You also can adjust the image quality, just select "low", "Medium", "High" modes for adjustment on the ComboBox. We suggest you choose "High" for higher image Quality. However higher quality will occupy more system resources, network bandwidth, and it will result in low display speed.

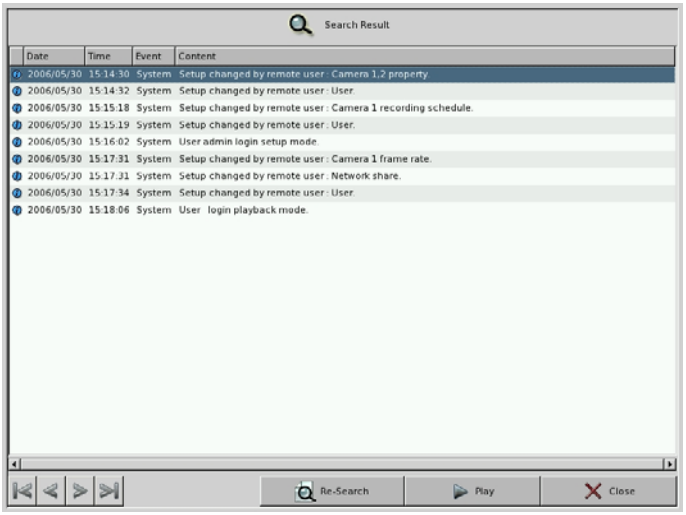


- Remote DVR Setup. If you are authorized the remote DVR setup, you can set the DVR configuration from remote IE client. Just click the button of " Setup" and the screen below will pop up. Please refer to "Chapter 5 for the DVR System Setting".



Each DVR remote setup change will be saved in the log system (refer to 4-2-2 Search by Event). The record will show any configuration that is changed by remote users.

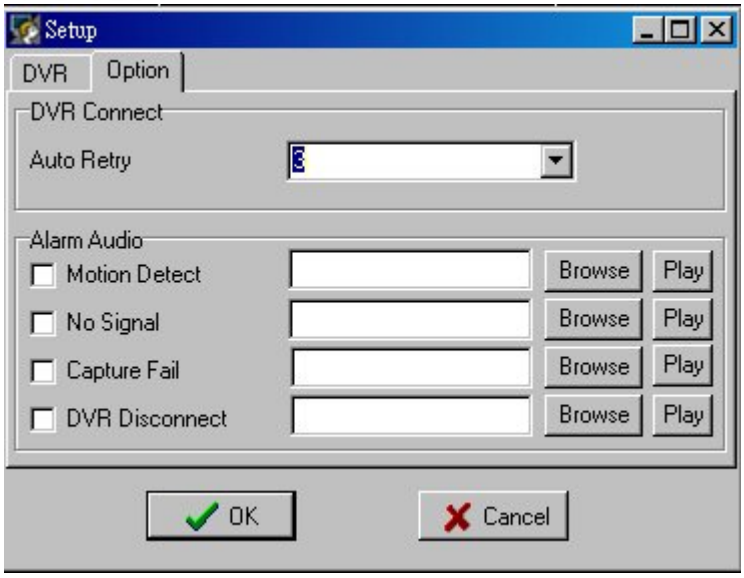
Record shown in “Event Search.


Search Result
Date
Time
Event
Content
2006/05/30 15:14:30 System Setup changed by remote user : Camera 1,2 property.
2006/05/30 15:14:32 System Setup changed by remote user : User.
2006/05/30 15:15:18 System Setup changed by remote user : Camera 1 recording schedule.
2006/05/30 15:15:19 System Setup changed by remote user : User.
2006/05/30 15:16:02 System User admin login setup mode.
2006/05/30 15:17:31 System Setup changed by remote user : Camera 1 frame rate.
2006/05/30 15:17:31 System Setup changed by remote user : Network share.
2006/05/30 15:17:34 System Setup changed by remote user : User.
2006/05/30 15:18:06 System User login playback mode.
Re-Search
Play
Close

Besides, once any remote setup change is done, it will immediately send a message to DVR.

- Configuration of Remote Audio Alarm

When remote IE client disconnects with DVR, you can set the times of auto connection to DVR. You also can set the remote alarm audio when DVR occurs “ Motion detect”, No signal, Capture Fail or DVR disconnect.



6-2-3 Snapshot

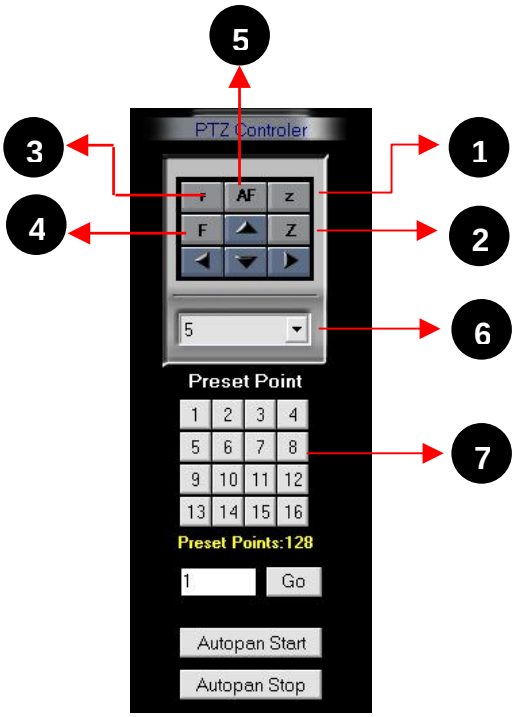
You can click the icon (Snapshot) to catch the whole screen picture and save it as JPEG files by clicking the “Save” button or print these pictures by clicking ”Printing” button .

6-2-4 Full Screen

You can click the icon (Full Screen) to enlarge the monitoring screen display. If you click any channel, it will enlarge that channel. If you want to return to main monitor, just click the

“ ESC” button on your keyboard.

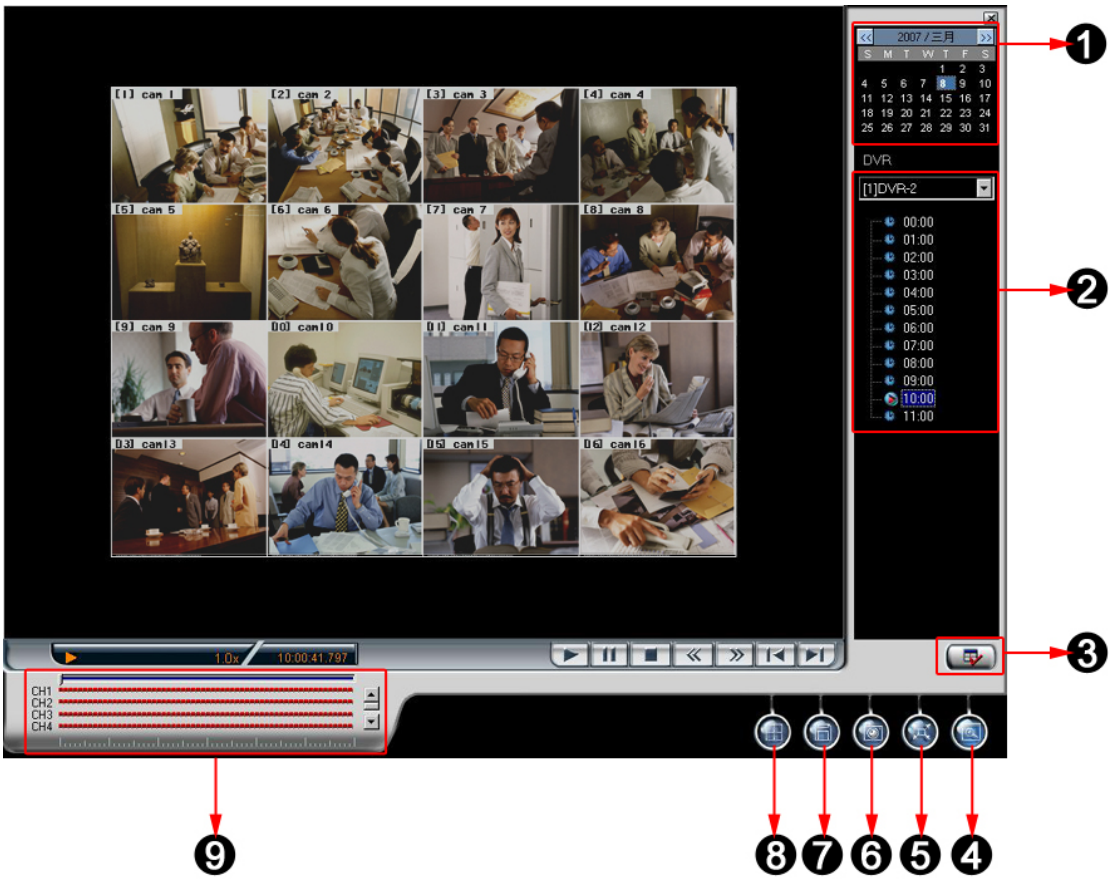
If you want to operate the PTZ function, click on the channel with PTZ camera directly. The screen will enlarge and a PTZ control panel will appear on the right as below.



Items	Description
1	Zoom Out
2	Zoom In
3	Focus Far
4	Focus Near
5	Auto Focus
6	Adjust PTZ Speed
7	PTZ Preset Point

6-2-5 Remote Playback

Click the **Playback** icon to see the screen below.

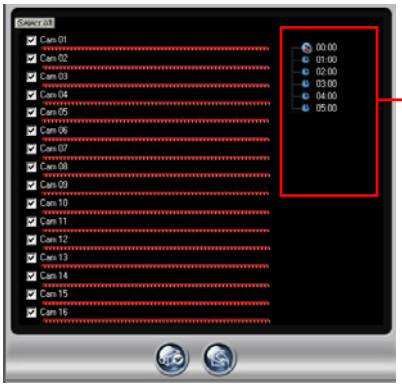


Items	Function	Description
1	Calendar	Select playback calendar
2	Data Tree	List recorded data file
3	Select Playback Channel	Select playback channels
4	Zoom the Playback Channel	Select different zooming screen
5	Full Screen	Playback in full screen
6	Snapshot	Catch playback image and save to the disk
7	Save Files	Download and backup the recorded files
8	Change Split Mode	Change playback division
9	Time Map	Select playback in minute

[Start to Playback]

- Select a date on the calendar.
- Click button to select playback split mode. There are 1, 4 and 16-channel split modes.

Click button to select the playback channels in different split modes and it will show the following Window to let you to select the playback channels. You can individually tick the cameras you want to playback or click to select 16 channels at the same time. "Select all" button is only provided in 16-channel split. After selecting the playback channels, select the time slot you want to play in the " Time Tree window. In the Time Tree Window", it will list all of the time slots with recorded video files.

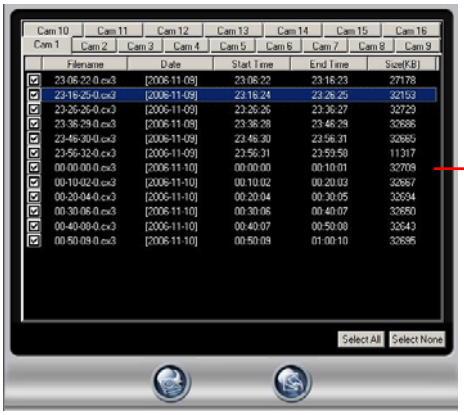


TIME TREE

- Click to save the configuration and start to playback according to the new configuration.

[Download Files]

Click button to download files and the following "**Download Window**" will appear. It will show all of the video files played in playback main window for user to download. When you click different camera, the played file in this camera will be ticked. You can also click "Select None" or to quickly select the download files. After finishing the selection, click button to start to download files or click to exit to playback main window.



→ Download file window

[Snapshot]

Click button to show the **Snapshot Window**. If you don't want to print or save certain picture, you just click on that channel to "Hide" the screen. You can click the channel again to "Show" the screen. Click button to print the snapshot pictures per channel per sheet by 320*240 resolution or click button to save the snapshot pictures as JPEG files.

→ **SNAPSHOT WINDOW**

Speed (－): To reduce the playback speed.

Speed (＋): To increase the playback speed.

Playback

Previous 1 min: To rewind 1 minute.

Next 1 min: To forward 1 minute.

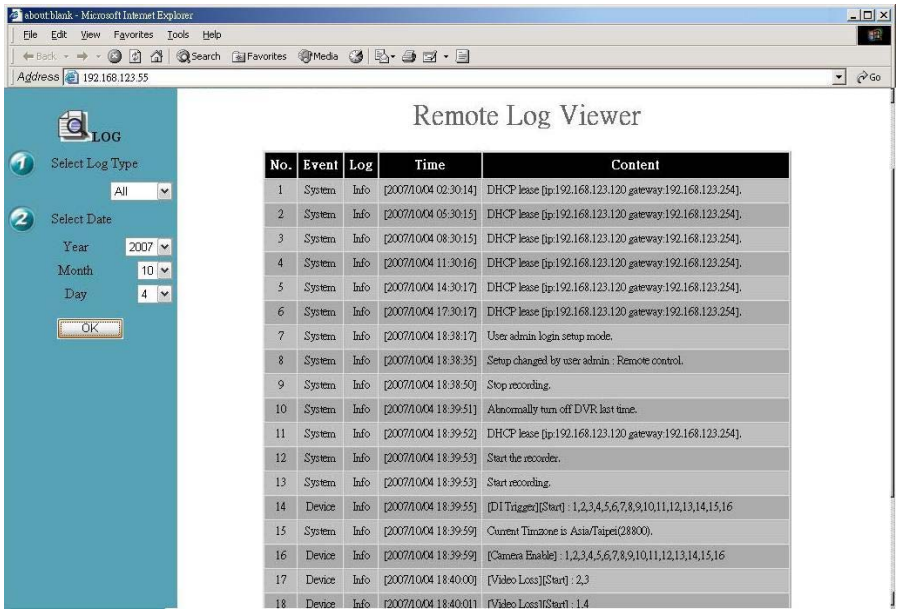
Pause

Stop

6-3 Remote DVR Log Query

You can query DVR log from remote IE browser.

Click the button of " Log" in the front page and it will show the menu below.


about:blank - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address 192.168.123.55
LOG
Select Log Type
All
Select Date
Year 2007
Month 10
Day 4
OK
Remote Log Viewer
No. Event Log Time Content
1 System Info [2007/10/04 02:30:14] DHCP lease [ip:192.168.123.120 gateway:192.168.123.254].
2 System Info [2007/10/04 05:30:15] DHCP lease [ip:192.168.123.120 gateway:192.168.123.254].
3 System Info [2007/10/04 08:30:15] DHCP lease [ip:192.168.123.120 gateway:192.168.123.254].
4 System Info [2007/10/04 11:30:16] DHCP lease [ip:192.168.123.120 gateway:192.168.123.254].
5 System Info [2007/10/04 14:30:17] DHCP lease [ip:192.168.123.120 gateway:192.168.123.254].
6 System Info [2007/10/04 17:30:17] DHCP lease [ip:192.168.123.120 gateway:192.168.123.254].
7 System Info [2007/10/04 18:38:17] User admin login setup mode.
8 System Info [2007/10/04 18:38:35] Setup changed by user admin : Remote control.
9 System Info [2007/10/04 18:38:50] Stop recording.
10 System Info [2007/10/04 18:39:51] Abnormally turn off DVR last time.
11 System Info [2007/10/04 18:39:52] DHCP lease [ip:192.168.123.120 gateway:192.168.123.254].
12 System Info [2007/10/04 18:39:53] Start the recorder.
13 System Info [2007/10/04 18:39:53] Start recording.
14 Device Info [2007/10/04 18:39:55] [DI Trigger][Start] : 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
15 System Info [2007/10/04 18:39:59] Current Timezone is Asia/Taipei(28800).
16 Device Info [2007/10/04 18:39:59] [Camera Enable] : 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
17 Device Info [2007/10/04 18:40:00] [Video Loss][Start] : 2,3

Step 1 Select Log Type

There are four types to select. All, System, Device and POS

Step 2 Select the time for Log Query

You can query the logs by day.

Step 3 Click "OK"

Click "**OK**" button to start log query and the result will show in the right window.

6-4 Remote Operation Language

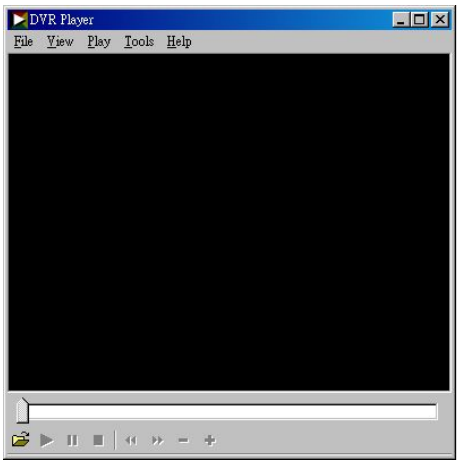
In V5.01, DVR support four languages for remote IE operation including English, Traditional Chinese, Japanese and French. The default setting of operation language will be according to the language of Windows Operation System in your PC. If you want to change the operation language, click the button of " Language" in the front page and select the language you prefer.

6-5 DVR Player

The DVR Player is used in three applications:

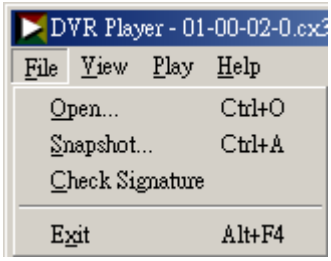
1. To watch the video clip downloaded from the DVR;
2. To watch the video clip burned on the CD-R/RW;
3. To verify the Digital Signature of the video clip.

You can find the DVR Player application in the program files.



- Click on the icon on bottom right to select a video clip.

You can check the digital signature in File -> Check Signature.

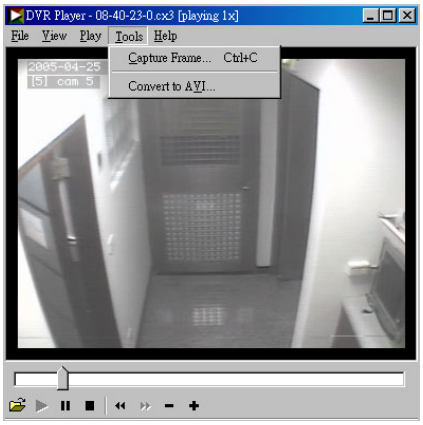


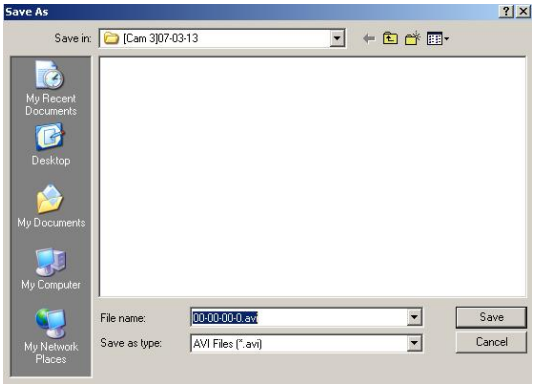
- **AVI Format Export:**

  This function provides you to transform the download files from CX3 format to AVI format.

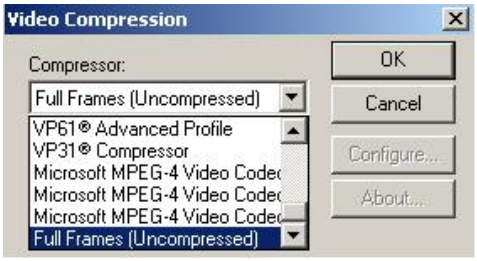
  a. Open a download file.

  b. In the “Tools’ bar, select “ **Convert to AVI**” and then select the path you want to save the AVI file and key in the AVI file name.

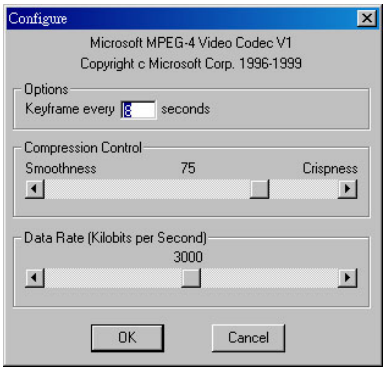




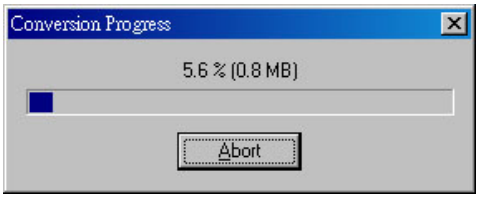
c. Select the transforming format. Here we choose Microsoft MPEG 4 Video Codec.



d. Select transforming parameters and it will influence the file's quality and size



e. Enter " OK" and then it will show the transforming status.



!	**Note** • The codec you choose are not all workable but it will prompt a warming message if it is not workable. • Below four codecs are not supported by this systems, *Intel 4:2:0 Video V2.50 *Microsoft RLS *Microsoft H.263 Video Codec *Microsoft H.261 Video Codec • The time of transforming format will depend on the file size and the codec you choose.

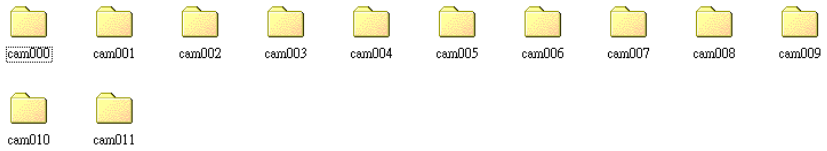
6-6 DVR Remote Backup

If the Network Share function is enabled, you can copy the video data of the DVR to any Windows PC in the same network.

(1) Search computer in the network by the DVR name or IP address.

(2) Enter the username and password you set in Chapter 5-4 “User Account Management”. If user wants to have the right of “ Remote Backup”, he should enable “Remote Playback”, ”Remote Setup” and “ Dial in Access”.

(3) Copy the files to hard disk or storage for backup.

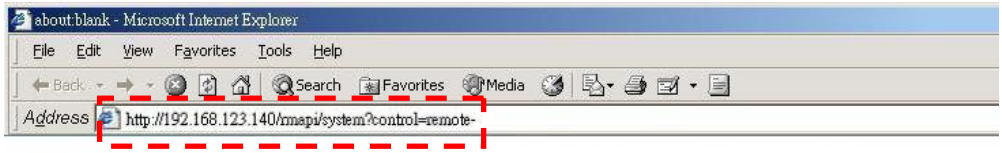


6-7 Remote Reboot DVR

This DVR system provides the function of rebooting DVR from remote IE browser. However, only “ Administrator” account has the right to do the remote reboot function.

Step 1. Enable “ Remote Reboot” in “System” Setup menu of DVR. Please refer to Chapter 5-7-2.

Step 2. Open IE Browser and enter Remote Reboot command.
Remote Reboot command: http://DVR ip/rmapi/system?control=remote-reboot



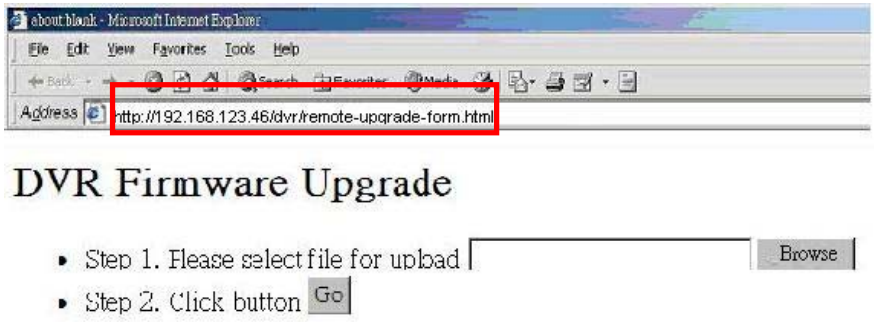
Step 3. Enter “ User Account” and “ Password” .
Only Administrator account has the authority to reboot DVR from remote side. If user account passes the authentication, DVR will start to reboot. If not or DVR reboot failed, it will return warning message.

6-8 Remote Upgrade DVR Firmware

This DVR supports the function of upgrading DVR firmware from remote IE browser. However, only " Administrator" account has the right to do the remote reboot function.

Step 1. Open IE Browser and enter Remote Upgrade command

Remote Upgrade command: http://*dvr_ip_address*/dvr/remote-upgrade-form.html



Step 2 Select the file for upgrade and click "Go" button"

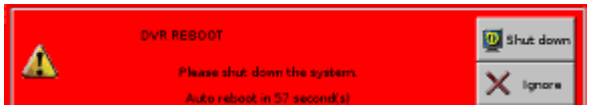
If file is successfully uploaded to the remote **DVR**, it will show the following message.

about:blank - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://192.168.123.46/dvr/remote-upgrade-form.html
DVR Firmware Upgrade Result
Upgrade file name [dvrtools-cd-nv1608-0A02-5030A4-1.iso], size [78414.00 KB]
Upgrade file is successly uploaded to the DVR.
DVR is starting to reboot and upgrade.

Step 3: DVR Reboot

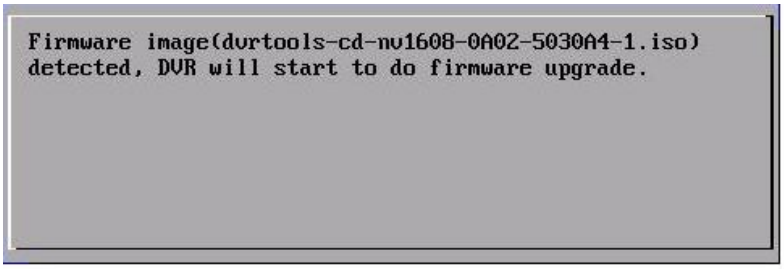
When proceeding DVR remote upgrade, there should be someone at the DVR side to monitor DVR remote upgrade process.

When file is successfully uploaded to the DVR at remote site, DVR will immediately pop up a message to show that it will start to reboot. You can click "Shut down" button or DVR will reboot itself after 60 seconds.

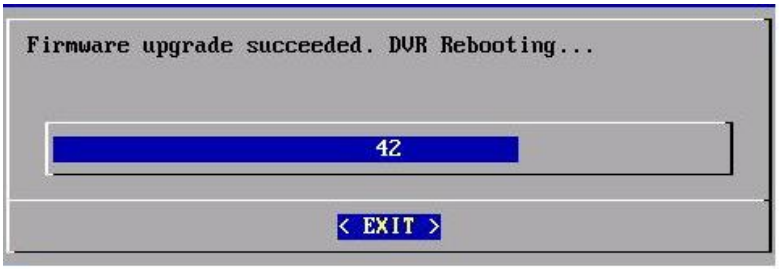


Step 4: DVR Starts to Upgrade

After finishing SYSTEM/DVR rebooting, it will start to upgrade the new firmware and show the following message.



After SYSTEM/DVR is successfully upgraded to the new firmware version, it will reboot again and SYSTEM/DVR will operate in a new firmware version.



If upgrade failed, you should use " DVR Tool" to do local SYSTEM/DVR upgrade.

6-9 Remote Monitor via 3G/GPRS/Wi-Fi Mobile Handsets

From V4.20, DVR also supports remote monitoring and remote PTZ control via 3G/GPRS/Wi-Fi handsets. You can browse a live MJPEG image with your mobile handsets.

[Main Features]

- Access DVR image directly instead of using somebody's computer to transmit.
- Support MJPEG video format
- Support JAVA

As long as your mobile phone supports JAVA, you can download this **Mobile browser** to your phone.

- Transmit Speed
  - ✓ With 2.5G, browsing image transmit 1~3 pictures per second.
  - ✓ With 3G, it transmits 5~10 pictures per second.
  - ✓ With Wi-Fi, it transmits more than 10 pictures per second.
- Using the cell phone to control PTZ

[Mobile Browser]

There are two versions of **Mobile Browser** including **Commercial** and **Professional** version. **Commercial** version is free and tie-in with DVR system. **Professional** version is charged. Please confirm with your vender what version you get.

Function	Commercial Version	Professional Version
S/W Serial No	No	Yes
No of DVR connection	1	Unlimited
DVR authentication	Yes	Yes
Split Mode	Support	Support
Resolution selection	Yes	Yes
Quality selection	Yes	Yes
DDNS	Yes	Yes
Snapshot	No	Yes
Channel Switch	No	Yes
Remote PTZ Control	No	Yes
2.5G Transmit Speed	1~3 fps	3~4fps

3G Transmit Speed	1~2 fps	3~10fps

6-9-1 Download Mobile Browser

Before you start to use " Mobile Browser" at first time, you should download it from WAP Gateway to install it in your mobile phone. Because the application of "**Mobile Browser**" resided in the WAP Gateway and your mobile phone communicate with WAP Gateway via WAP protocol, you should use the WAP service to connect to the WAP Gateway. Before linking to the WAP Gateway, please refer to the user manual of your mobile phone to operate the WAP service.

- **Step 1: Link to the WAP Gateway**

  Before using **Mobile Browser**, you should download it from WAP Gateway and install it in your mobile phone.

  ✓ Please use your mobile handset to connect to the WAP Gateway (wap.mo-soft.com/wap)

  ✓ Select **"Language"**

  ✓ Click "**Download**".

■ **Step 2: Select system & version**

✓ Select **"Mobile Surveillance system"**

✓ Select "**Vender**"

✓ Select "**Version**"

Select the Version you want to download. If you want to download " **Professional"** version, please select " **Full Version**". However, " **Full Version"** should get the license in advance before downloading. Please refer to Chapter 6-7-3 "Purchase a Serial No on line" .If you want to download " Commercial" version, please just select " **Free Version**".

✓ Select **Java MIDP Version of your Mobile Phone supported**

If you select "Full version", it will ask you to select the Java MIDP (Mobile Information

Device Protocol) version your mobile phone support. If you select “Free version”, it won’t pop up the selection. Most of 3G mobile phones support MIDP 2.0 while 2G mobile phones only support MIDP 1.0. Please refer your mobile phone spec and select the correct version.

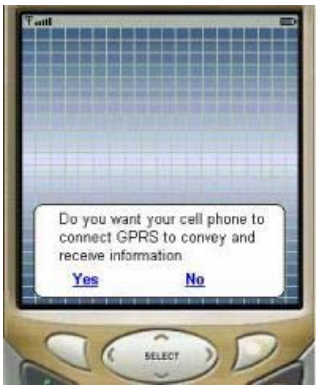
Then, the application of **Mobile Browser** will start to download to your mobile phone and install in your mobile phone.

6-9-2 Start to use Mobile Browser

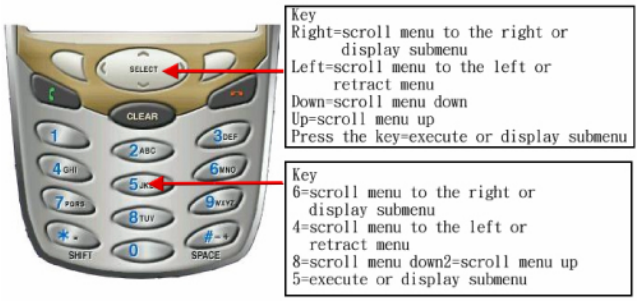
- **Begin Mobile Browser**

After you install **Mobile Browser** application, the icon of this application will exist in your mobile phone. Click the icon to start the **Mobile Browser**.

When you start **Mobile Browser**, it will ask you if you agree to convey or receive information. Please click “ Yes” to enter the system.



■ Control Key

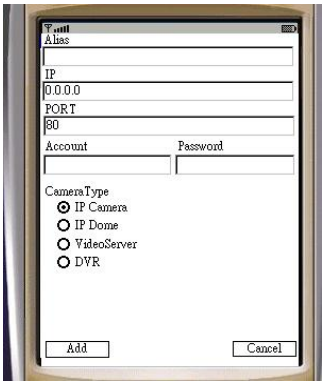


■ Main Menu

✓ Camera:

➢ **Add: this function let you to add new DVRs for mobile surveillance.**

When you click Add, it will show the below screen to ask you to enter the related DVR connection information including "DVR Alias Name ", "IP Address", "Port", "Username" and "Password". In "**Camera Type**" column, please tick " **DVR**" and then click " Add" to finish the configuration. Then, this DVR will be shown in the " Camera List".

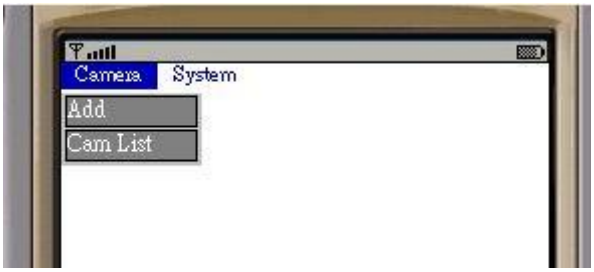


➢ **Camera List:** List the DVRs you can access.

✓ System:

➢ **Language:** We provide English and Traditional Chinese version.

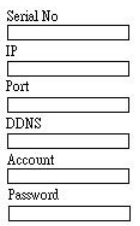
➢ **Quit:** Choose " Quit" to finish the system you are using.



■ Camera Setting

After adding a new DVR, you can find this DVR in Cam List. By clicking it, below menu will pop up for your selection.

- ✓ **Alias:** You can change the name of DVR.
- ✓ **Live Vision:** Show you the DVR live image you want.
- ✓ **Setting:** Set up the DVR configuration or remove the DVR.



Commercial version does not need to provide with Serial no. If you install Professional version, please enter serial No you bought.

- ✓ **Next:** Switch to another DVR to control.
- ✓ **Move:** You can move the DVR which you already chosen and move it to a certain place.
- ✓ **Main Menu:** Back to the Main Menu.

■ Operation of Live Monitor (Live Vision)

When you click “Live Vision”, it will start the remote monitor screen as below picture.

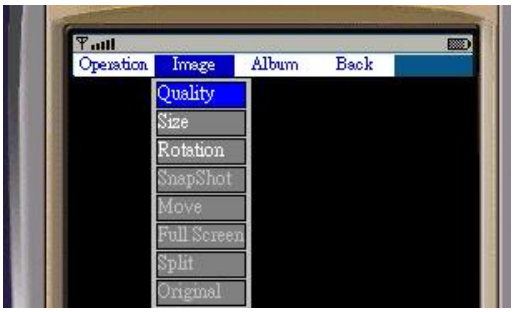
- ✓ **Operation menu:**
  - ➢ **PTZ:** You can control the PTZ via your mobile handset. This Mobile Browser provides you with several control function including “ Moving up, Down, Left,

Right, Enlarging and Shrinking.

- **Preset:** Set a fixed position point.
- **Channel:** Switch the channel you want to monitor.
- **Split:** Select the split mod you want to monitor in.

✓ **Image:**

- **Quality:** You can adjust the image quality. There are three ranges of image quality including **Poor, Middle and High**.



- **Size:** Adjust image size including "Small" Middle" and "Large"
- **Rotation:** Rotate the Image.
- **Snapshot:** Capture a single image.
- **Move:** If the image you are monitoring is larger than the screen of your mobile phone, you can use this function to move the picture.

If the image you are monitoring is larger than the screen of your mobile phone, a moving frame will automatically pop up. Click "**Move"** and use direction key to adjust the monitor screen.

- **Full Screen:** You can use **Full screen** to adjust the image to fit the size of your phone.
- **Split:** This function provides you to monitor the previous images in the same screen. The picture on the left or upper left is the latest one. There are

two-splits mode and four- splits mode.

Different Kinds of Split mode

- ➢ **Original:** Make the image back to the original size.

✓ **Album:** You can see the picture or image you save in the **Album.**

✓ **Back:** Back to the **"Main Menu".**

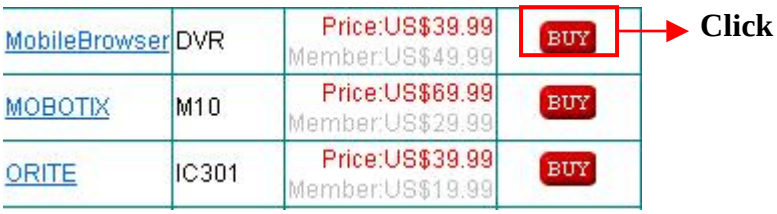
6-9-3 Purchase a Serial No on line

■ **Step 1: Link to the Mo-Soft Shop**

If you want to have a **Professional** version, you should purchase a serial No in the **Mo-soft Shop** of which **web address is www.mo-soft.com** before you start to download the **Web Browser** to your mobile phone. Click the button of "**Shop**". If you just want to use **Commercial** version, please skip this **Section** and jump to the Section of **Download Mobile Browser.**

■ **Link to the purchase Page**

Then, it will list below table for your selection. Please select "**MobileBrowser**" and click " **Buy**".



■ **Enter the DVR Mac Address**

Please check your DVR Mac Address and enter it in the empty column. Then, click " **Next**".

You can query your DVR Mac Address by making the command of http://DVR IP/rmapi/info/productinfo.php in your IE explorer. The underline of " DVR IP" in this command, please enter your DVR IP address. For example, if your DVR IP address is 192.168.123.55. This command will be http://192.168.123.55/rmapi/info/productinfo.php

■ **Finish**

It will summarize all of the product information and please click "Paypal" if the information is correct.

Product Information	
Manufacture	MobileBrowser
Camera Type	DVR
MAC Address	192168123321
Price	US$ 39.99
Channel	16
PTZ	none

After you finish paying by PayPal, you will receive a Serial number in your e-mail box sent by Mo-Soft. You can use this Serial number to download the **Mobile Browser** on your mobile phone.

!	**Note** If you can't access the live image via your mobile phone, please check the items as below. • You should set Fixed IP instead of Dynamic IP in DVR network setting. • Please check if your mobile phone can connect to network • Please check if DVR remote monitor is enabled. • Please check if the version of your DVR is V4.20 and above. • Please check if the network setting of your DVR is correct so that your DVR can be accessed through Internet. To make sure this point, you can connect DVR through IE browser from your PC and enter DVR IP address to see if DVR can be accessed through Internet. • Please check if your mobile phone supports MIDP 1.0 or 2.0.

7.Appendix

A. Hardware Compatible List

Minimum Hardware Requirement

	HV3000				HV5000		SV2000
Channels	4	8	12	16	8	16	16
RAM	1G		2G		1G	2G	1G
CPU	Intel E2200 2.2G						
Power Supply	350 Watt		420 Watt		420 Watt		350 Watt

	SV1000	
Channels	4	8
RAM	256M	512M
CPU	Intel E2200 2.2G	

	SV/SV+			
Channels	4	8	12	16
RAM	256M	512M		
CPU	Intel E2200 2.2G			

!	1. To ensure reliable DVR system, DVR will automatically detect system DRAM capacity. If DVR installs 1G DRAM, it will provide max 16 channels playback function. If DVR just installs 512MB DRAM or less, only four channels playback function will be provided. 2. To enhance the DVR performance, please enter BIOS menu to load optimized setup when you install the DVR.

M/B Compatible List

Brand Name	Model	Chipset	# of PCI slot
Gigabyte	GA-P31-S3G	IntelP31/ICH7	3
Gigabyte	GA-G33-DS3R	IntelG33/ICH9	3
Gigabyte	GA-EP35-DS3L	IntelP35/ICH9	3
Gigabyte	GA-P35-S3G	Intel P35/ICH9	5
Gigabyte	GA-EG31M-S2	Intel G31/ICH7	2

!

After installing the DVR, please enter the motherboard "BIOS" to have the settings as below to ensure SATA HDD work well,

1. If the chipset of South Bridge on Motherboard is ICH9, please select "**AHCI**" in the option of "**SATA RAID/AHCI Mode**" and "**Enable**" the option of "**SATA Port0~3 Native Mode**" or "**SATA Port0~1 Native Mode**" under the menu of "**Integrated Peripherals**".
2. If the chipset of South Bridge on Motherboard is ICH7, please select "**Enhance Mode**" in the option of "**On-Chip SATA Mode**" under the menu of "**Integrated Peripherals**".

VGA Card

Brand Name	Model
ASUS	N6200
ASUS	EN6600LE
Gigabyte	GV-NX84G256HE
Gigabyte	GV-NX73G158D
Gigabyte	GV-NX86T256H

RAID Support

Brand	RAID spec	Interface
ProWare	DataFree 7502 Hardware RAID Level 1	IDE to IDE Ultra DMA133 drives
Proware	SB-3160SS series Hardware RAID Level 0,1,3,5	SCSI SATA HDD

Proware	DP-503AA Hardware RAID Level 1,3,5,6,0+1	SATA HDD to SATA
Accusys	ACS-75200 Hardware RAID Level 1	SATA HDD to SATA
Accusys	ACS-7500 Hardware RAID Level 1	IDE to IDE Ultra DMA100 drives
Areca	ARC-5010 Hardware RAID Level 0,1,3,5	IDE HDD to IDE or SATA
Areca	ARC-5030 Hardware RAID Level 0,1,3,5	SATA HDD to IDE or SATA

I/O Extension Card

Brand	Model	Interface
HighPoint	Rocket133	PCI
PROMISE	Ultra 133 TX2	PCI
PROMISE	SATA 300 TX4	PCI
PROMISE	SATA 300 TX2Plus	PCI
Tekram	TR-824	PCI

SCSI Extension Card

Brand	Model	Interface
Adaptec	AHA-2940UW	PCI
Adaptec	AHA-39160	PCI
Adaptec	AHA-29160	PCI

Mobile Surveillance Handsets

Vender	Handset Models
Motorola	E770/E1070/E1000/V975/A760/A768/A780/E680/E680i/V3/V3x/T720/A388c
Nokia	N70/N90/7650/3650/7210/7250/6610/6100/6108/3300/N93/N80/E61/E70
Samsung	SGH-Z548
Sony Ericsson	Z800i/K608i/K500i/K700i/S700i/Z800/P800/P900/P910/K600i/M600i
BenQ	S80
Win Ⅱ	F868/F860/F520/F320

PTZ Model

Model
Lilin
Pelco-D
Pelco-P
Panasonic
Sensormatic
DongHwa
TOA
Kalatel
SANYO
Hi Sharp
Samsung
GTICO(Small)
GTICO(big)
YoKo
Dynacolor
Elmo
Eye View
Messoa
Elbex
DongHwa

DVD/CD-RW Burner

DVR Burner	Disk Type Support	Remarks
Pioneer	*DVD+R *DVD-R *DVD-RW *CD-R *CD-RW	
Asus	*DVD+R *DVD-R *DVD-RW *CD-R *CD-RW	
NEC	*DVD+R *DVD-R *DVD-RW *CD-R *CD-RW	Not support DVD+R/RW
Nu	*DVD+R *DVD-R *DVD-RW *CD-R *CD-RW	

IP Camera/Video Server Support

IP Cam/ Video Server Brand	Axis	Panasonic	Vivotek
IP Cam	AXIS 2XX Series	WV-NS Series, WV-NF Series, WV-NP Series, WV-NW Series	IP6112, IP6117, IP7138, IP7139, IP7142, IP7151, IP7152, IZ7151, FD6111V, FD6121V, FD6112V, FD6122V, FD7131, SD6112V, SD6122V, SD7151
PTZ Camera			PZ7151, PZ7152
Video Server+Analog Camera			VS7100
Video Server+PTZ camera			VS7100+Peleco D, Dynacolor, Lilin PTZ camera

B. Main Menu

Every time you start the DVR, you shall see the Main Menu for advanced system functions.

- **Start DVR:** To start the DVR normally.
- **Play Recorded Video:** Playback only. Be sure to enter admin user password first when you want to enter the Play Recorded Video icon. This option is used to playback a hard disk without rewriting it with new recording contents.
- **Disk Tools:** Be sure to enter admin user password first when you want to enter the Disk Tools icon.

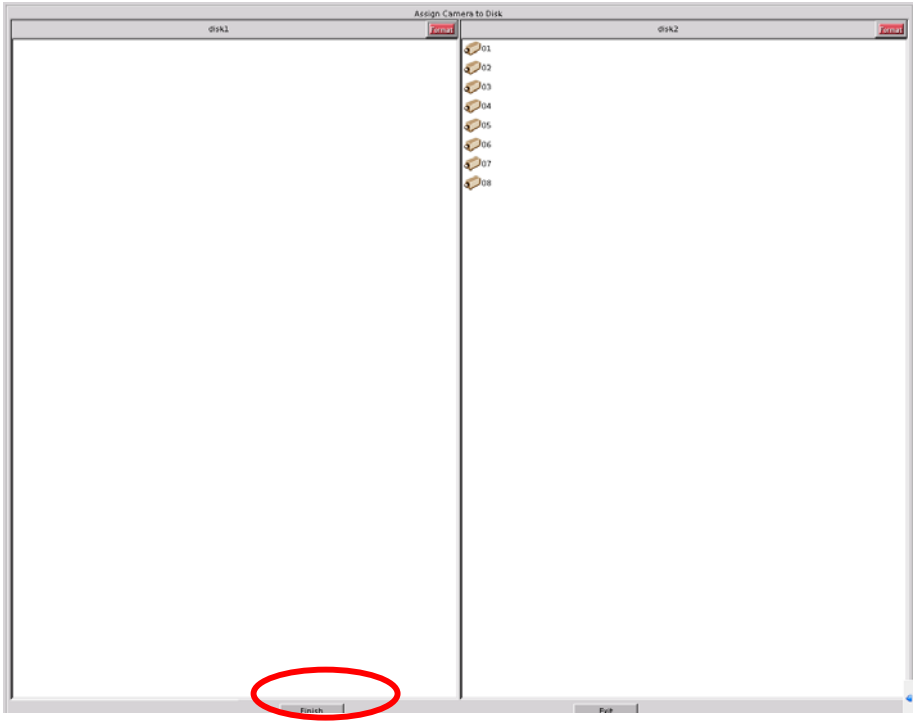
✓ S.M.A.R.T Diagnostic: To examine the internal record of the hard disk.

✓ Disk Scan: To check the hard disk status using Linux tools.

✓ Disk Manager: To assign cameras to hard disks or to format hard disk. Furthermore, this function also can collect recorded data of a camera in different hard disks to one

hard disk when reallocating the camera to hard disks.

When you plug in or replace new hard disks/ DOM, or execute “Disk Tools” in “Main Menu”, Diskmanager will help you collect data of a camera that is recorded in different hard disks to one specific hard disk. The following dialogue will appear:

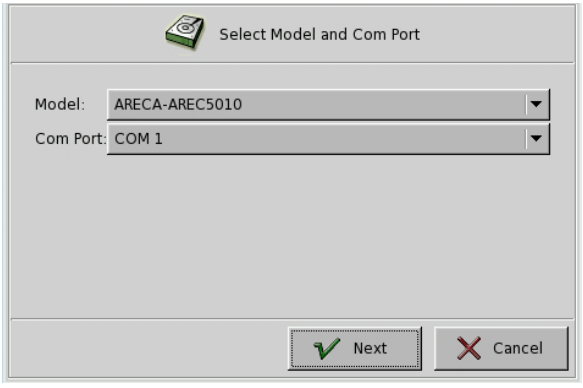


Click “**Finish**” to start re-allocation.

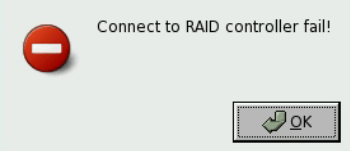
✓ RAID Box Configure

V4.20 and above supports Areca RAID Box and provides the UI interface for RAID configuration in Main menu so that user can set up the RAID configuration directly.

Step 1: Select RAID Model & COM Port



If you select the wrong model, below message will pop up.

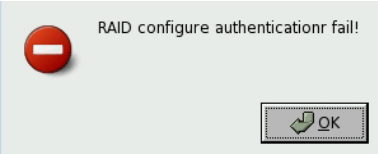


Because RAID box sends the RAID log message to DVR through COM port, please select the actual COM connection (Refer to Chapter 5-7-2 System Setting).

Step 2: Authentication

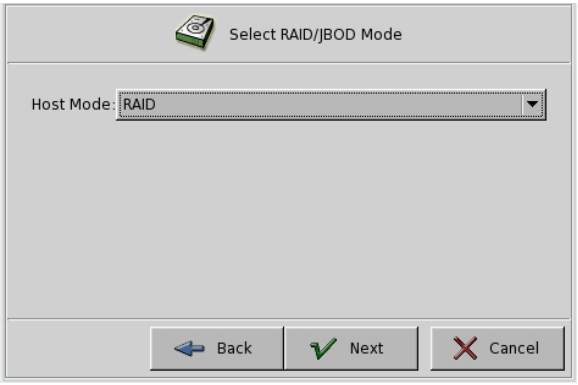
If RAID Box provides password authentication, DVR will prompt the following dialog box to ask you to enter password.

If password authentication is failed, below message will show up. Please retry again.



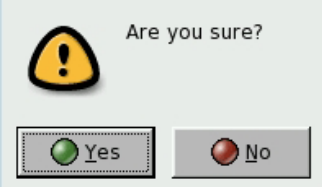
Step 3: Select RAID/JBOD mode

There are two modes for selection, RAID or JBOD.

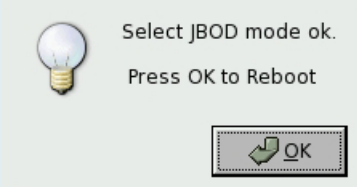


- Select JBOD mode

If you select JBOD, DVR will prompt you the following message.



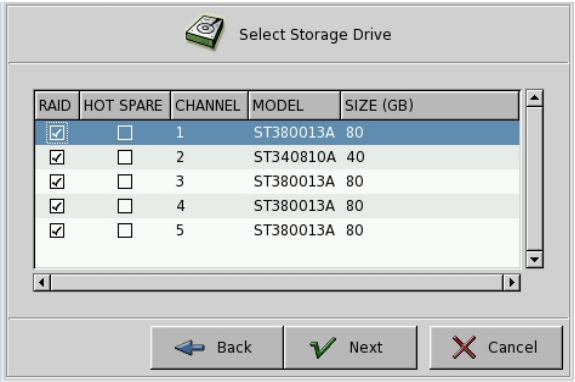
If you click "**Yes**", the following message will occur and reboot DVR after you press "**OK**" to finish the RAID configuration.



!	**Note** • If the interface between RAID Box and DVR system is through IDE and you select JBOD mode, DVR will just support max two channel HDDs. • If the interface between RAID Box and DVR system is through SATA interface, it can't support JBOD mode.

■ Select RAID mode

If you select RAID mode, it will show the following menu for you to assign RAID or HOT Spare to each RAID Disk and list all Disk information.



Please note below threes remarks when you make the selection,

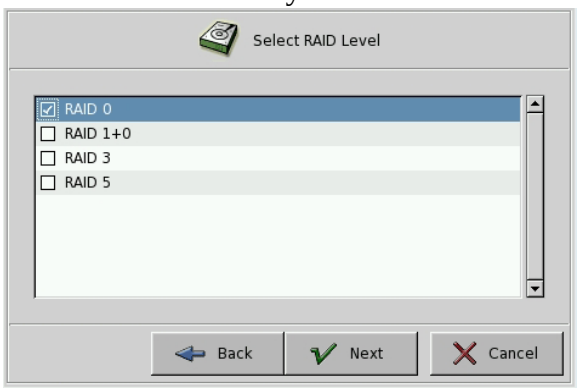
1. **RAID and Hot spare can't be selected in the same channel(HDD).**
2. **Only one Hot spare HDD can be selected.**
3. **It's meaningless to select Hot spare in RAID Level 0.**

Step 4: Select RAID Level

DVR will provide the selectable RAID level according to the assignment from above step, and the criteria are as below,

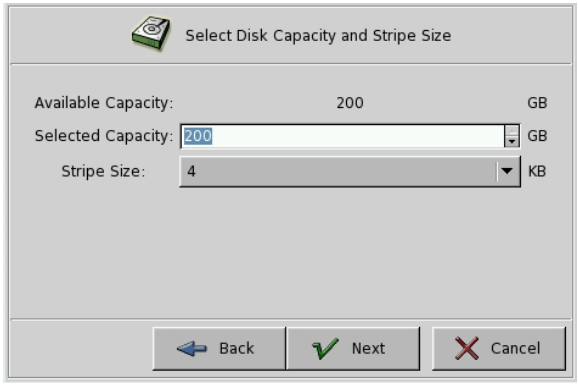
- RAID 0: Require minimum one HDD.
- RAID 1+0: Require minimum three HDD.
- RAID 3: Require minimum three HDD.
- RAID 5: Require minimum three HDD.

Select the RAID level that you want to use.



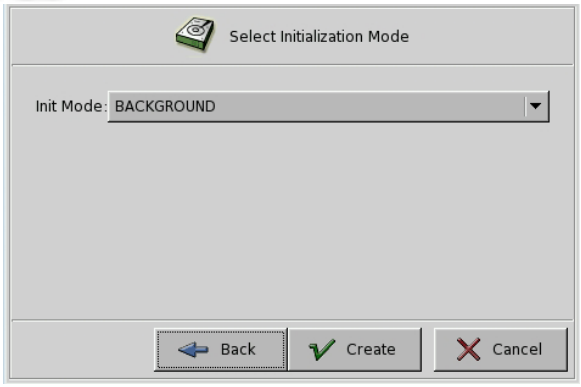
Step 5: Select capacity and stripe size

" **Available Capacity**" means the max capacity that can be used in the RAID disk. You can select how much disk space that you want to use. The RAID box provides the options of Strip size that you use.

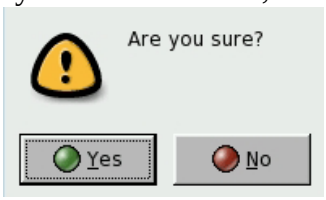


Step 6: Initialization

The final step is initializing the RAID Box. There are two modes for selection-**Foreground** and **Background**. **Foreground** means disk can be used after finishing the RAID configuration. Background means disk can be used during executing RAID configuration.



After you click" **Create**", below prompt message will appear,



If you select **Foreground** Initialization, it will show the RAID initializing progress after you click "**Yes**". If RAID is successfully initialized, it will prompt below message.

Click "**Ok**" to reboot DVR and finish RAID configuration.

- **System Tools:**
  - ✓ Reset Configuration: To reset all the settings to factory default.
- **Select Language:** To select your preferred language (Traditional Chinese, English, Japanese, French, German, Portuguese, and Spanish).
- **Camera Signal:**
  DVR provides NTSC/PAL camera formats for selection. Please select correct camera format according to the camera you connect.

C. FAQ

1. Q. I have set the recording mode as motion sensor recording. But why the DVR still records a lot of video that has no motion at all?

   A:

   (1) The digital recording system is very sensitive. It can detect the tiniest motion that human eyes cannot perceive. You can lower the sensitivity setting in camera setup menu.

   (2) Flickering fluorescent lights (when traditional 120 Hz ballast are used) or TV (or computer) screen can be the motion source. In this case, adjust the motion detection area so that these flicking sources will not be detected. It is recommended not to align the camera directly at fluorescent lights, TV, or computer screens. The use of better-quality fluorescent lights (with electronic ballast), monitors, and the cameras can be considered.

   (3) When cameras are installed, please make sure the quality of cables, connections, and workmanship. Sometimes interference could cause the image unstable. Avoid placing the system close to a compressor (fridge), or to a motor (washing machine) that might cause magnetic interference.

2. Q: What will happen if there is a power outage (cut)? Do I have to do anything?

   A: If a power outage occurs, the last file will not be closed properly. Therefore, up to 10 minutes of data might be lost. It is recommend connecting the system to an Uninterruptible Power Supply (UPS). This will help to avoid shortening the system life span and partial data loss caused by the instability of power supply.
   When the power returns, the system will automatically re-boot, restore data and go back to the normal operation in approx. 1 minute.

3. Q: Why the remote monitor not working?

   A:

   (1) Using the windows command PING to check if the network connection is ok.

   (2) Turn the proxy setting off.

   (3) The remote PC needs to install the DVR client when the first time you want to

connect to DVR from remote IE. Make sure you have installed the DVR Client (dvrsetup program) with correct version. If DVR with new version upgraded, you should also upgrade dvrsetup.

(4) Check security setting in IE browser is not too restricted. The active X option must be enabled.

4. Q: How to check the log file of the DVR from remote site?

A: The log file can be seen from remote PC using IE browser. From V5.01, DVR provides Log viewer in IE client for user to query DVR log from remote side.

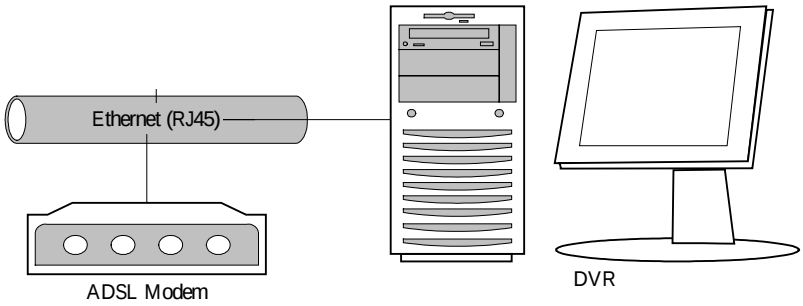
5. Q: How to capture the snapshot of the whole screen?

A: It can be done from remote PC using IE browser. Suppose the DVR IP address is 192.168.123.12, type http://192.168.123.12/rmapi/misc/screen-snapshot on a remote PC to see the picture.

D. Internet Connection

D-1: IP address is used by one DVR only

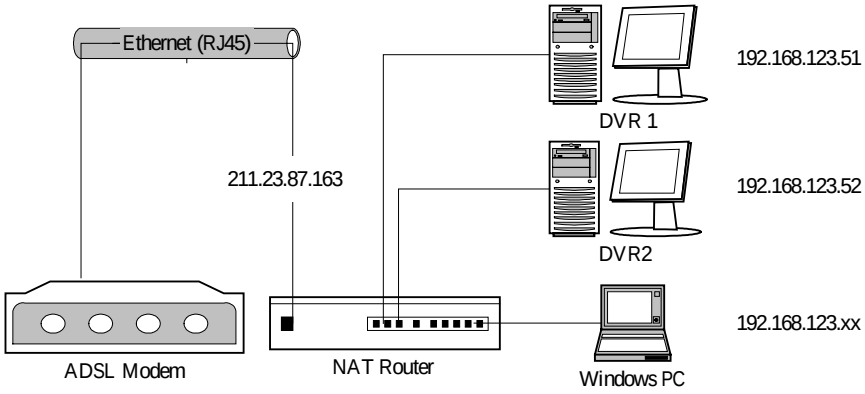
Assume the static IP address you get from ISP is 211.23.87.163.
When
(1) The IP address is not used by any other devices, and
(2) ISP does not require user name and password to connect,
You can connect like the following figure:



In this case, just follow the instructions in section 3-6-7 and section 4-2 to make the DVR on Internet.
User from Internet can use http://211.23.87.163 to connect to the DVR.

D-2: IP address is shared by more than one device

Assume the static IP address you get from ISP is 211.23.87.163.
When
(1) The IP address is shared by more than one devices, or
(2) ISP requires user name and password to connect
Please refer to following figure:



In this case, you will need an NAT router to connect to the high-speed modem. Please refer to the user manual of your NAT router to translate DVR1 (192.168.123.51 port 80) to a port of 211.23.87.163, for example, port 8001. Similarly, translate DVR2 (192.168.123.52 port 80) to another port of 211.23.87.163, say, port 8002. You also need to set the user name and password on this router in order to successfully connect to ISP. Follow the instructions in section 3-6-7 to set the IP address of DVR1 as 192.168.123.51.

Users from Internet can now use http://211.23.87.163:8001 to connect to DVR1 and use http://211.23.87.163:8002 to connect to DVR2.

E. Maintenance

Avoid placing the system in a high temperature or a high humidity environment and also keep away from the place with frequent vibrations. Operate the system under stable voltage. If possible, operate the system with a UPS (Uninterruptible Power Supply)

F. Customer Service

For technical questions, please contact our Technical Support Team at 972-247-1203 *2.